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MESSAGE FROM THE PRESIDENT OF THE UNITED
STATES, TRANSMITTING THE REPORT OF THE
is-SPECIAL COMMISSION APPOINTED TO IN-
VESTIGATE CONDITIONS OF LABOR
AND HOUSING OF GOVERNMENT
EMPLOYEES ON THE ISTH-
MUS OF PANAMA



DECEMBER 8, 1908.—Read; referred to the Committee on Interoceanic
Canals and ordered to be printed, with illustrations.

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MESSAGE FROM THE PRESIDENT.

To the Senate and House of Representatives:

I transmit herewith the report of the special commission appointed by me to investigate conditions of labor and housing of government employees on the Isthmus of Panama. The commission made careful and extended inspection of the workshops and living quarters of the employees, and conferred with representatives from all classes of workmen employed by the Isthmian Canal Commission and the Panama Railroad. After a thorough investigation the commission state that—

The general sentiment of the workers was expressed in the words of a mechanic in one of the conferences which we held with representatives of different trades. "We want it understood that we are American citizens and that we are proud to have a share in this great work. We believe the Government is treating us right, and we are as much interested to see this thing a success as anyone." The spirit of loyalty and interest in the work was evinced on many occasions, and should be accounted an asset of the highest value to the Government in the accomplishment of its colossal task. The American people are entitled to just pride in the standard set by their Government for the treatment of the workers and the loyal service which has been the appropriate result.

The commission expresses the hope that "the liberal and progressive policy adopted in civil administration, in education, and in the care and treatment of employees of all races will be maintained, and that progress and improvement will be the watchword to the end." I am glad that the official reports previously received are confirmed by these unprejudiced investigators.

The commission submitted valuable recommendations regarding minor defects of the service. Such of these as come under Executive authority I have ordered put into effect as far as possible. But I would call the attention of the Congress to the recommendation that the liberal housing policy of the administration be continued as an essential condition of the industrial efficiency of the employees.

I especially urge your favorable consideration of the recommendation to make a more liberal provision for employees permanently disabled in work on the Isthmian Canal. In the event of permanent disablement those engaged in this great national enterprise should receive as generous treatment as is accorded to those who have been disabled in the defense of their country. After faithful and hazardous service these workers should not, when disabled, become public charges in almshouses, or burdens upon relatives unable to provide for their support.

THEODORE ROOSEVELT.

THE WHITE HOUSE,
December 8, 1908.

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REPORT OF THE SPECIAL COMMISSION.

NEW YORK, *August 6, 1908.*

To the President:

The undersigned, constituting the special commission, appointed by you April 25, 1908, "to investigate conditions, especially as regards labor and accommodations, on the Isthmus of Panama," have the honor to submit the following report and recommendations:

Our labors on the Isthmus began May 11, and in order to understand the problems of labor and housing in their relations to the entire Panama Canal project, and to appreciate the extent and character of the difficulties involved in their practical solution, we made an examination of the work as a whole before entering upon our special investigation. We inspected the entire line of the canal excavation from La Boca, the southern or Pacific terminus, to Cristobal, the northern or Caribbean terminus, and traveled through the excavation several times, interviewing the men at work. We visited the government workshops, construction plants, warehouses, shipyards, dredges, commissary stores, living quarters (i. e., hotels, messes, kitchens, camps), schools, club houses, courts, police stations, and the convalescent home at Taboga.

We preface our report with a summary of the development and status of the canal enterprise at the time of our visit in May, 1908.

Work on the construction of the Isthmian Canal has passed through two stages, those of planning and of preparation. It is now in the third and final stage, the stage of construction. Both the earlier stages required the presence of a large working force, necessarily quartered in temporary and makeshift accommodations. Because of these conditions, inevitable at the outset, early critics of the canal enterprise mistook the initial and temporary outfit for the permanent equipment.

The terrible scourge of yellow fever, against which the French struggled in vain, the filthy and pest-breeding state of the principal Panamanian towns, the rough labor camps, and other pioneer hardships of the two first eras, have been eliminated through the brilliant and persistent activities of the department of sanitation, the department of municipal engineering, and the building department. To-day we find yellow fever driven from the Isthmus, the deadly *Stegomyia* mosquito thus rendered innocuous, malaria and pneumonia greatly reduced, and a high average of health established.

Although the Government's immediate object on the Isthmus is to dig the canal and to provide living quarters for a temporary enterprise, it has in fact created comfortable homes and well-organized social communities for its working force. It has provided gratuitously for its married American employees furnished quarters with

modern plumbing, including bathrooms; water, fuel, and light are also free. These dwellings are planned to secure the maximum comfort possible in a tropical climate. For its unmarried American workmen it has provided commodious furnished lodgings, amply supplied with shower baths. For its European and West Indian laborers it has made similar provision on a more modest scale. Its well-stocked commissary stores sell first-class American goods at moderate prices. In addition to supplying the strictly material needs of this international colony, it has erected schools, churches, and club houses in the larger communities.

A correct estimate of the results now being accomplished and of the equipment and personnel of the working force may be deduced from the following suggestive statistics:

This year over two and a third million cubic yards were excavated in each of the winter months, the dry season in Panama, 1,000,000 yards being approximately equal to a square mile 1 foot deep. To prepare this immense mass for removal 405 tons of dynamite were used per month, an average of 17 tons per workday. To "make the dirt fly" to this extent thirty-two 95-ton steam shovels, thirty-seven 70-ton, ten 45-ton, and twenty-four others, in all one hundred and three steam shovels, were in constant use. Five hundred 50-ton steel flat cars, one thousand eight hundred 40-ton wood frame flat cars, one thousand one hundred and fifty-nine American and six hundred and fifty French dump cars, and thirty-seven miscellaneous cars, a total of four thousand one hundred and forty-six cars, and one hundred and sixty-four American and one hundred and thirty-eight French locomotives, moved this mass to the dumps. Expedition and economy of labor were promoted by four 25-ton pull unloaders and twenty-six 60-ton pull unloaders. Twenty-three 50-ton dirt spreaders completed the excavation outfit. A fleet of eighteen barges, fifteen dredges, and thirty-one other vessels were at work in the dredging service.

The two principal dumps at which the earth and rocks are deposited are located at La Boca and Tabernilla. The La Boca dump has a capacity of about 7,000,000 cubic yards, will be rock-faced when filled, and will serve as a breakwater to protect the Pacific ship channel. The Tabernilla dump, the largest ever known in the history of construction work, has an estimated capacity of 30,000,000 cubic yards, beyond which it can be still further developed. On the day of our visit 41 train loads were dumped at Tabernilla. Each train consisted of 16 cars, the capacity of each car being 20 cubic yards, place measurement. The average haul for excavated material is 12 miles. The longest regular haul is in the transportation of rock from the Culebra cut to the Gatun dam site, a distance of 23 miles.

Three large air-compressor plants are operated to supply power for rock drilling, pumping, and the pneumatic tools in the shops. A large stone crusher is propelled by compressed air. The main air-supply lines consist of approximately 6 miles of 10-inch, $2\frac{1}{2}$ miles of 7-inch, and 2 miles of 8-inch mains. In the month of April, 1908, the three plants compressed 294,400,000 cubic feet of free air.

To keep the machinery and tools in condition 3 large machine and repair shops, 2 shipyards, and numerous warehouses are maintained. When we recall that this enormous plant is operated at a distance of

1,382 miles from its nearest base of supplies, New Orleans, and 1,975 miles from its main base of supplies, New York, we can estimate with more justice and accuracy the magnitude and complications of the undertaking.

On April 30, 1908, 26,118 men were actually at work for the Isthmian Canal Commission, and 7,075 at work for the Panama Railroad, a total of 33,193, of which number there were 5,831 "gold"^a employees, and 27,362 "silver"^a employees.

With this general statement of the scope and size of the enterprise, we pass to the consideration of the conditions of housing and labor assigned by you for our investigation. The statistics of the housing of this industrial army employed by the Government is as follows: 678 government houses contained quarters for 1,183 families of "gold" employees, consisting of 1,233 men, 1,290 women, and 1,104 children; 197 houses for bachelor "gold" employees, with 2,166 rooms, had 3,902 occupants; 58 government houses contained 255 families of European laborers, consisting of 254 men, 237 women, and 264 children; 146 government houses for European bachelors, with 165 rooms, had 5,356 occupants; 240 government houses contained quarters for 996 families of colored laborers, consisting of 1,081 men, 1,104 women, and 953 children; 228 houses for colored bachelors, with 425 rooms, had 8,578 occupants. There were 19 hotels or boarding houses for American laborers, 26 messes for European laborers, and 34 West Indian laborers' kitchens.

To provide this force with food, clothing, and the average requirements of American, European, and West Indian living, commissary stores and storehouses, a government laundry, ice-manufacturing plant, two electrical plants, a bakery, and two printing establishments are constantly operated. Meats, cereals, canned provisions, and even market vegetables, like all construction materials, must be imported. Fresh fish, bananas, pineapples, yams, and a few other vegetables are bought in the local markets.

The morale of the service has been furthered on the physical side by means of government hospitals, a large and attractively located convalescent home (each employee being entitled to free medical attendance and hospital service, and if ill, a thirty-days' sick leave with pay) and recreation grounds; and on the social side by reading rooms, churches, and club houses under the direction of the Young Men's Christian Association.

We now turn to the second subdivision of our subject, the conditions of labor. From the outset we were strongly impressed by the spirit of good will and loyalty of the employees, inspired through the accessibility of the chief engineer, Col. George W. Goethals, to all complainants, and his prompt investigation in person or by deputy of all complaints made. The complaint bureau, under the secretary of the commission, Joseph B. Bishop, has contributed to the same end, particularly in the handling of the complaints of European employees. The general sentiment of the workers was expressed in

^a "Gold" employees: Employees nearly all Americans, who include skilled mechanics and the clerical force, and are paid in gold. "Silver" employees: Employees nearly all aliens, who are mainly unskilled or common laborers, and are paid in silver.

the words of a mechanic in one of the conferences which we held with representatives of different trades:

We want it understood that we are American citizens and that we are proud to have a share in this great work. We believe the Government is treating us right, and we are as much interested to see this thing a success as anyone.

This spirit of loyalty and interest in the work was evidenced on many occasions, and should be accounted an asset of the highest value to the Government in the accomplishment of its colossal task. The American people are entitled to just pride in the standard set by their Government for the treatment of the workers and the loyal service which has been the appropriate resultant.

Complaints indeed were made to us, some of which we found upon investigation to have been amply justified. Almost without exception the complaints were based on alleged discrimination in the treatment of individuals or of trades rather than upon intentional injustice or actual hardships inflicted. These complaints should be met by equalizing conditions and adjusting differences. Some improvements are demanded in the efficiency of the organization of the work and some in the conditions of living. Readiness to recognize the value of progressive improvement in the service, which is conspicuous in the attitude of the present chief engineer and his associates, should be continued as a fundamental policy of the administration.

The conditions of employment of skilled Americans on excavation work in "the States" can not properly be compared with that of Americans on the Isthmus, for the reason that the former are working at home. While their wages are lower than the wages paid "gold" employees on the Canal Zone, they are more contented and satisfied with their economic condition and their environment—the environment to which they have become accustomed from childhood.

The unskilled laborer in the employ of the Isthmian Canal Commission, with his roomy quarters, which are well cared for, with shower baths, and clean kitchens and messes where he obtains his food, is much better treated than the common laborer in work of similar character, but under private management, in "the States." On the Isthmus his earnings are secure, and no one is permitted to take advantage of his ignorance or his appetites.

We desire to make acknowledgment for the liberal aid given us by the canal officials. We also appreciatively recognize the help of many of the workers in furnishing information. There was a manifest intention on the part of all to be fair in statement and to avoid exaggeration and unwarranted accusations.

The improvements which we propose are classified under accommodations, food supply, conditions of labor, and recreation. We should dwell at greater length on recommendations regarding the department of labor, quarters, and subsistence, but that we were informed, while still on the Isthmus, that important changes in the line of our recommendations had already been determined upon.

RECOMMENDATIONS OF THE PRESIDENT'S SPECIAL COMMISSION.

I. ACCOMMODATIONS.

SUPERVISION OF QUARTERS.

More efficient supervision of bachelor quarters of all grades is needed. Superintendents and supervisors of hotels, messes, and kitchens should be experienced in such service. A uniform policy in relation to the housing and provisioning of the employees should be maintained throughout the zone. Stewards should carefully supervise and train janitors and caretakers.

According to a report made to the commission by the commissioner of labor, quarters, and subsistence, the grades of service are as follows: Stewards are in charge of quarters—i. e., hotels for "gold" employees, messes for Europeans, kitchens for West Indians, directing the work of cooks, waiters, and house servants. Over the stewards are supervisors having general supervision of all the quarters and boarding places of one community. Over the supervisors are four division superintendents, having general supervision of the quarters of their respective divisions on the Canal Zone. The stewards were supposed to have had previous training in their work, but this was not always the case, and if it were, the unique conditions of a tropical climate present so many difficulties that new stewards should begin their service under an experienced supervisor who has served as steward. The stewards in turn should train janitors and house servants.

The actual superintending officers lacked experience. None of the 4 superintendents and only 2 of the supervisors had been stewards before they were promoted to the position of superintendent or supervisor. Seven of the supervisors had previously been clerks; 3, foremen; 1, a stenographer; the former occupation of 1 was not given. Of 6 assistant supervisors, none had been stewards, but immediately before the promotion 2 had been timekeepers; 1, a pipe fitter; 1, a shipping clerk; 1, an insurance agent; the previous occupation of 1 was not given.

The expense of this cumbrous system of supervision seemed to us unnecessarily great. The salaries of 4 superintendents at \$275 per month amounted to \$1,100 per month; and the salaries of 14 supervisors at \$175 per month amounted to \$2,450 per month, a total of \$3,550 per month, or \$42,600 per annum for superintendence alone. One competent experienced superintendent should be sufficient to superintend and supervise the entire service, provided he has under him stewards of requisite ability and experience.

DRYING ROOMS.

Drying rooms should be provided in or near bachelor quarters for Americans, Europeans, and West Indians. The installation of drying rooms was recommended by the chief sanitary officer, and by the special board appointed to investigate the prevalence of pneumonia on the Canal Zone. This recommendation was passed over by the Canal Commission because the construction of two drying rooms, one located at Cristobal and the other at Gatun, had already been

authorized, and it was deemed advisable to observe their operation. At the time of our investigation it was agreed that these experimental drying rooms were an unqualified success and were decidedly popular. Accordingly, the chief engineer, acting on the suggestion of the special commission, has planned drying rooms for all of the bachelor quarters occupied by Americans. These plans should be promptly executed. Moreover, drying rooms for Europeans and West Indians should be installed, and we urge their early construction, preferably adjacent to the washhouses now generally provided.

BLANKETS FOR LABORERS.

Every European or West Indian on his arrival should be required to provide himself with two blankets and two suits of underclothing, and if he neglects to do this, such articles should be issued to him and charged to his account.

This requirement is in accordance with the recommendations of the chief sanitary officer and of the special board appointed to investigate the prevalence of pneumonia on the Canal Zone. The Isthmian Canal Commission did not act favorably on these recommendations, for the reason that the sanitary department had succeeded in reducing the number of cases of pneumonia. But although the disease is now under better control, the best course to prevent its recurrence would be to require that laborers be provided with proper bed covering and a change of underclothing.

EXTERMINATION OF VERMIN.

Uniform and vigorous measures should be taken for the extermination of vermin.

Neither superintendents nor supervisors of quarters appeared to have received specific instructions regarding the extermination of vermin. Consequently, the ideas and methods of stewards and their superior officers varied, with the result that some quarters were free from vermin, some moderately free, and others badly infested. Complaints regarding these pests, "muchas chinchas," were made to us by Americans, Europeans, and West Indians. Competent authorities agreed that with proper care and sufficient knowledge little trouble need be experienced from this source. The sanitary department would seem to be the natural and proper advisor in this matter, and might be requested to prepare a circular of general instructions to be enforced by the local janitors. The work of the stewards and janitors should be supplemented by regular inspection of the quarters by the sanitary officers, who have been so successful in the extermination of the disease-breeding mosquitoes. At the time of our visit health officers were making occasional inspections in a few places only.

WIRE SCREENING OF QUARTERS.

Wire screening should be kept in good repair. Several complaints were made to us by supervisors and stewards of quarters that requisitions for screening had been delayed. A requisition for much-needed screening, sent April 22 by the hospital at Colon, had not been filled on May 30.

No standard for satisfactory grades of screening seemed to have been determined. This should be done promptly, and such screening procured in adequate quantities.

II. CONDITIONS OF LABOR.

REVISION OF SCHEDULES.

The wage schedule should be simplified, the grades reduced in number, and the same pay and hours required for similar service for the Isthmian Canal Commission and the Panama Railroad Company. Much cause for existing complaints would be eliminated by the above-mentioned changes.

The "gold" pay roll of the Canal Commission contained 757 different rates of compensation for employees. The "silver" roll contained 400 different rates of compensation, there being 19 different rates of pay on the "silver" roll for firemen alone.

In many cases no adequate explanation was given for the payment of different wages to men having the same duties. This was particularly apparent in the case of messengers, of whom there were 13 different grades.

The application of longevity pay to men employed on the "gold" roll will inevitably create further complications, and it is possible that should the longevity pay be applied to all employees, no two employees in the service of the commission would receive the same rate of wages. Many instances were cited to us in which certain employees were receiving less remuneration than others for the same work with the same responsibility. In other cases differences in the rates of pay were not warranted by equivalent differences in responsibility, efficiency, experience, or in the physical or mental exertion required.

An instance of this discrimination was presented in the case of night freight conductors employed by the Panama Railroad Company, who received the same pay yet worked longer hours than the day conductors. Employers of labor in the United States recognize universally that men employed at night are entitled to fewer hours or higher compensation than men performing the same duties and doing day work.

A similar variation in wages in the performance of the same duties existed in relation to certain classes of employees performing the same kind of labor for the Isthmian Canal Commission and for the Panama Railroad. These discriminations were also the subject of complaint and will continue to affect the efficiency of the forces unless they are harmonized.

The chairman of the Isthmian Canal Commission informed us that he had already given attention to some of these inequalities, and we urge that the commission should immediately consider directly or through a subcommittee a thorough revision of wage schedules and the elimination of unnecessary classifications.

The labor agents, representing the Canal Commission, visited the industrial centers of the United States, and offered to mechanics, engineers, and workmen a wage rate sufficiently attractive to cause them to emigrate to Panama. In very few cases, however, did this wage rate hold the workmen, and not until the business depression

affected the conditions of employment in the United States, in the winter of 1907-8, was there a lessening of the numbers leaving the Isthmus for the States. Measuring the conditions solely by the economic law of supply and demand, the wage rates till now have only attracted and held the employees during the period of financial depression in the States.

A number of comparisons have recently been made between the rates of pay on the Isthmus and pay for similar work in the United States, with a view to establishing the fact that the Isthmian wages were excessive.

In one of these comparisons, the rates of pay in the navy-yards of the United States were quoted and the rate for mechanics employed in shipbuilding were compared with the rate of mechanics employed in building construction work and railroad maintenance work on the canal. It would have been much fairer to compare the rates of pay of mechanics employed on building construction work in cities where the navy-yards are located, with the rates paid on the Isthmus. In fact, the rates paid on the Isthmus are but 10 per cent higher than the rates paid on building construction work in the city of New York.

In spite of these comparisons, the fact remains that the labor agents of the Isthmian Canal Commission were unable to induce any appreciable number of mechanics, employed on building construction, in excavation or navy-yard work, in New York and other cities, to leave their homes, families, and friends, and emigrate 2,000 miles, to a tropical country, to accept employment with the Canal Commission at the rates which they offered.

There is no work in the United States with which the cost of excavation for the canal can be properly compared because of the dissimilarity in conditions. The cost of excavation in the United States varies from 26 cents per cubic yard for sand and gravel that runs to the shovel and is hauled 300 yards, to 85 cents per cubic yard for rock excavation on the New York state barge canal, the rock consisting of soft sandstone easily broken with a sledge, and the haul being 400 yards. In the city of New York, where the conditions are exceptional and the cost of excavation per cubic yard affected by the location and surrounding conditions and the quantity of material to be excavated, the cost for material similar to that being handled in the canal work varies from \$1.50 to \$3.50 per cubic yard. One of the largest open-cut excavations ever undertaken in the city of New York, now nearing completion, consisting mainly of rock, is costing \$2 per cubic yard.

Taking into consideration all possible factors, on March 30, 1908, the cost of \$1.65 per cubic yard on the Isthmus is not extravagant, particularly when it is borne in mind that, against this cost of excavation, there is charged, not only the labor cost, but the cost of civil government, education, sanitation, hospitals, and medical inspection, and the transportation of supplies and employees for a distance of 2,000 miles. Considering the possibility of the shortening of the working life, the loss of connection and acquaintance with men engaged in similar industries in the United States, the possibility of disease and accident, as the result of employment on the Isthmus, we are convinced that the wages paid are not excessive, and we recommend that no reductions be made.

LENGTH OF WORK DAY.

Telegraphers and train dispatchers on the Panama Railroad should receive by executive order the benefit of the provisions of the so-called hours-of-service law, passed at the last session of the Congress, and should therefore not be required to give more than nine hours of service daily, except in case of extraordinary emergency. Station agents, whose work often includes that of telegraphers and train dispatchers, should also be brought within the provisions of the same law. When either telegraphers, train dispatchers, or station agents are required to work Sundays they should be allowed a day off during the following week.

In this connection, it is proper to record that we found the eight-hour law faithfully enforced in the entire service of the Isthmian Canal Commission. The working day for clerks employed in the executive offices who were American citizens was seven hours. All citizens employed in the excavation, dredging, and construction departments worked eight hours per day. The steam shovels were operated eight hours per day. Locomotive engineers and conductors, when required to work more than eight hours owing to accidents and delays, were allowed a day off upon the accumulation of a day's time in overtime. Shop mechanics were paid time and a half for all overtime.

LONGEVITY PAY.

The longevity increase should apply to all American employees receiving less than \$5,000 a year salary. Longevity pay, as we understand, is offered to induce those who have become acclimated to continue in the service. If this be the principle, then superintendents, civil engineers, foremen, bookkeepers, and others who are acclimated and have familiarized themselves with the work on the Isthmus are entitled to longevity increase equally with shop mechanics, engineers, and those employed on repair and excavation work.

The provisions of the longevity order issued May 1, 1907, by Mr. Taft, the Secretary of War, make liberal and appropriate increase in the wages of various classes of workmen, as follows:

(a) All employees not native to the Tropics, who occupy the positions herein designated, shall be granted the following increases in pay for length of continuous service on the Isthmus:

Five per cent of the basic or class rate for the second year, with a cumulative addition of 3 per cent of the basic rate for each subsequent year; provided, however, that such cumulative increase shall not exceed a total of 25 per cent of the basic rate.

VACATION PRIVILEGES.

Vacation privileges should be granted to all "gold" employees on equal terms. The present distinction in relation to vacation with pay between monthly and hourly men should be abolished, since the distinction does not appear to be justified by an examination of the facts upon which it is based. The ground for declining to allow the hourly men vacation with pay is that they already are receiving time and a half for overtime, which the monthly men are not receiving. The question then is, Do the facts show that they receive an amount approximately equivalent to the sum which they would otherwise receive for the six weeks' vacation with pay?

Of the time earned in the month of February, 1908, by shop mechanics, 4.56 per cent was overtime. In computing this average it was found that the men employed in the Paraiso shops worked 12 per cent overtime, and those employed in some other shops had no overtime at all. In fact, a numerical majority of the mechanics earned little or no overtime. But since the principle is made to apply to all, the average benefit must be considered.

The total possible earnings of a mechanic paid by the hour at the rate of 65 cents per hour, at which rate the greater number of shop mechanics are employed, and who takes his vacation on his own time, amounts in a year to \$1,465.20. Assuming that the overtime of all amounted to 5 per cent, that being the actual percentage of overtime in April, 1908, the total overtime earnings per capita would be \$73.26 for one year. The regular earnings of hourly men receiving 65 cents per hour would amount to \$187.20 for six weeks. If overtime work by the mechanics was considered as a substitute for a vacation with pay, it is evident that the actual average overtime pay is not a fair offset to a vacation with pay.

"Gold" monthly men during the month of April, 1908, were paid \$530,191.04, and "gold" hourly men \$157,145.26. Considering this month as a basis for comparison, the cost of the six weeks' vacation granted to the monthly men amounts to \$795,286.56. The cost of granting an annual vacation with pay to the "gold" hourly men, figured on the same basis, would amount to \$235,717.89. On the basis of the month of April the total earnings for one year of the "gold" hourly men would be \$1,885,743.12. Estimating overtime for all on the basis of 5 per cent, the amount representing overtime would be \$94,287.15. This amount certainly can not be considered as an offset or in any way equal to the amount of \$235,717.89, which would be the cost of granting them vacations with pay on the same basis as the monthly men.

Considering the whole subject of the extensive six weeks' vacation with pay, we understand, both from the statement of Colonel Gorgas, the chief sanitary officer, and from the arguments of the men, that this length of time was granted because it was supposed to be in the interest of health to give to the men an opportunity to secure annually a change of climate. Assuming this to be the case and recognizing the great expense involved to the Government in providing reduced rates of transportation at a positive loss, in sacrificing the services of men for six weeks in order to give them a month at their homes, with all the incidental demands on their accumulated savings, we urge the consideration of substituting for the six weeks' vacation with pay every year the same vacation every two years, and on alternate years the provision of a month's vacation in some nearby place or places, where a change of climate and of air could be obtained. The difference between the climate of the mainland and that of the island of Taboga suggests the possibility of establishing a vacation home there, board being provided at reasonable rates.

The island of Jamaica and one or two places in Central America, we understand, also offer excellent resorts which would grant all the benefits of health secured by a change of climate and temperature, and would probably return the men to their work in better condition than is often the case at present, where the temptation to dissipate and spend money is the too frequent result of a visit to "the States." The

married workmen would also find it easier and less expensive to take their families to these adjacent resorts than to bear the serious drain on their accumulated earnings of a trip to "the States." We would therefore recommend that all "gold" employees be treated alike, receiving in alternate years six weeks' vacation with pay, and in other years a four weeks' vacation, also with pay, for which necessary governmental cooperation should be given, in reaching accessible health resorts.

LABOR SECRETARY.

A labor secretary to the commission should be appointed, whose duty it shall be to investigate all complaints in relation to conditions of employment, subsistence, and accommodations, and to report thereon to the chairman of the commission.

The accessibility of the present chief engineer to all complainants, and his prompt investigation in person or by deputy of important complaints made to him, is worthy of the highest praise, and has been fully appreciated by the workmen. A strong appeal was, however, made by many employees for the appointment as labor secretary of one who by training and experience would be familiar with the workman's point of view, and who could be more freely called upon for the investigation of grievances and complaints. We believe the appeal should be granted, and that such an appointment would promote harmony and contribute to the efficiency of the work. Such a secretary would naturally be an American, and his chief dealings would be with the American laborers.

The handling of the grievances of European and West Indian laborers by the complaint bureau under the secretary of the commission. Mr. Bishop, merits strong commendation. This work should be continued and should be under the direction of the proposed labor secretary.

A second assistant, associated with the labor supervisor, is needed to sustain a similar relationship to the West Indian laborers. These assistants should be men of intelligence and tact, having an intimate acquaintance with the races with which they deal. The familiarity of Mr. Garibaldi with both Italian and Spanish has markedly contributed to the success of his work. Equally important for the West Indian assistant is a conversational knowledge of French and English.

COMPENSATION FOR INJURIES.

Adequate compensation for injuries received while employed on the Isthmus should be provided for all employees, unless the injury was intentional or received in the commission of an unlawful act.

The commission has acted up to the present time in the absence of statute. Its policy in dealing with cases of temporary disability and minor injuries has been fair and liberal. We recommend that this policy be continued.

Under an act of Congress taking effect August 1, 1908, any person employed by the United States as an "artisan or laborer * * * in hazardous employment under the Isthmian Canal Commission" who is injured in the course of his employment, shall be entitled to receive one year's pay unless sooner able to resume work, no compensation being paid unless the injury shall continue for more than

fifteen days. In case of the death of the artisan, his widow, children, and dependent parents shall receive the full amount of his wages for the balance of the year. The investigation incidental to the determination of the facts takes place under the Secretary of Commerce and Labor.

This law seems to us inadequate both in its principle and application, regarding cases of permanent disablement of artisans or laborers. Employees permanently disabled should be pensioned for the rest of their natural lives. The act should apply to all employees of the Isthmian Canal Commission. The word "hazardous" should be omitted. If any employee has been injured in the course of his employment he should receive the benefit of the law. A slight injury should entitle an employee to compensation as well as a more serious injury. The present requirement of a physician's certificate in all cases where compensation is paid affords ample protection against imposition, and the provision would seem likely to develop abuses of its own. In the case of death of unmarried employees, dependent relatives should be allowed not less than five years of half pay. On the death of married employees an allowance of 60 per cent should be made for the widow until she remarries, and for children until they are 16 years old.

Under the present law the head of each department may delegate some person or persons to investigate for him the facts regarding injuries received. We recommend that the Secretary of War in the administration of the aforementioned statute designate as his representatives a committee of three, consisting of a judge of one of the Canal Zone courts, a member of the commission named by him, and a mechanic to be recommended by the chairman of the commission. This board should investigate and report in all cases of injury.

WORKING RULES.

All executive orders and rules or regulations adopted by the commission that define or affect conditions of employment, and that are still in force, should be condensed, compiled, and printed. They should then be issued with the revised wage schedule and should be accessible to all employees.

PRINTING OFFICE.

The rooms now occupied by the printing office in Panama should be abandoned at the earliest possible date, for the reason that the light is insufficient and the sanitary conditions very poor indeed.

The printing office now operated under the control of the Panama Railroad Company should be consolidated with the printing office of the Isthmian Canal Commission, and a new and adequate building should be provided for the consolidated offices.

III. FOOD SUPPLY.

UNION OF SUBSISTENCE AND COMMISSARY DEPARTMENTS.

The subsistence and commissary departments should be united. Such united departments should be under the Isthmian Canal Commission rather than under the Panama Railroad. There should be closer connection between the New York office and the commissary office on the Isthmus. All perishable foods should be guaranteed for tropical conditions and such guarantee strictly enforced. This guarantee is already fulfilled by English and German shippers, and if American shippers are to continue to have preference they should equal their competitors. The provision of the national pure food law and all regulations thereunder should be put into effect on the Canal Zone.

We understand that the union of the subsistence and commissary departments has already been determined upon, and therefore needs no argument. That this united department should be under the Isthmian Canal Commission rather than under the Panama Railroad seems equally evident from the fact that its service must be almost entirely that of the employees of the Isthmian Canal Commission.

Many difficulties inevitably result in sending requisitions from Colon to New York. It is but just to state that on the whole these difficulties have been well met. But a clearer understanding between the Panama office and the New York office is needed. The head of the Panama office should be kept well acquainted with the variations in New York prices. He should spend at least part of his time in New York in touch with the American market, and his orders for various supplies should be strictly fulfilled.

Unnecessary loss to the Government has occurred from the defective canning of certain food products, from the inadequate wrapping of others, and from the failure of supply contractors to prepare their consignments for tropical conditions. Flavoring extracts, for instance, have been supplied in large gallon bottles, a mistake which has involved loss and deterioration in the quality of the extracts. On the other hand, coffee, often supplied in small parcels, would be better preserved if supplied in 50-pound tin cans, as was the case in the navy stores that we visited at Camp Elliott. Acceptance of orders of food by the Government should be at the port of arrival rather than the port of departure, or if at the port of departure the examination should be more strict and thorough than at present.

CULINARY SERVICE.

A greater number of well-trained cooks is needed in the hotels and boarding houses. The complaints regarding food made to us related far more to the lack of good cooking than to the quality of the food. Our examination of the food in the different hotels, messes, and kitchens indicated that a good quality of food is supplied. The excellent cooking at certain places merits high praise. We are not satisfied that there has been sufficient care exercised in the past in obtaining good cooks. This is a matter of first importance. Inquiry leads us to believe that the wages paid on the Isthmus make it pos-

sible to secure properly trained cooks, and that if sufficient pains are taken in the selection in "the States" of such cooks and in the examination of their record, a pressing need will be met.

THE TIVOLI HOTEL.

The Tivoli Hotel should be under a capable, well-paid manager, accountable directly to the chairman of the commission and competent to maintain it as a first-class hotel for the entertainment of the increasing number of Americans and foreigners who visit the Isthmus.

The Tivoli Hotel was well designed, attractively located, and admirably arranged and appointed. The original intention to provide first-grade accommodations seems to have been forgotten or ignored, as until very recently the building has not been properly cared for, nor have the food and service been worth the high prices charged. This unsatisfactory condition can not be attributed wholly to the manager of the hotel, as he has not had undivided responsibility and control. He has been rated as "assistant manager," the titular manager being the superintendent of the department of labor, quarters, and subsistence having charge of the district in which the hotel is situated. The need of a first-class hotel grows with the rapid progress of the canal enterprise. To bring the hotel up to the proper standard an experienced and successful hotel man should be secured. He should have full power of administration, should receive an adequate salary, should be directly accountable to the chairman of the commission, and should be required to run a first-class hotel of a thoroughly up-to-date character.

QUARTERS FOR MARRIED PEOPLE.

Quarters for married people should be more liberally provided. Economy might be practiced by assigning unmarried workmen to the more temporary communities, making place for married workers in the more permanent communities.

The applications for family quarters on file April 1, 1908, numbered 465; on May 1, 1908, 403. An examination of the list of applications for accommodations shows that there were 93 applications for family quarters in Cristobal, 72 in Empire, 51 in Gatun, and 45 in Gorgona, on April 1. It was estimated that from six months to a year would be required before the applicants on this list would all be assigned. The above statistics indicate a lack of adequate family quarters. It is not to be expected that all applicants can be accommodated immediately, but the supply of quarters should certainly be more nearly equal to the demand.

To determine the extent and character of the accommodations for employees which the Government might be reasonably expected to supply, we visited the Mesaba Range in Minnesota, where an approximately similar housing situation obtains. The United States Steel Corporation, the International Harvester Company, and other concerns on the range, we noted, had deemed it good policy to provide houses in sufficient number for their married employees. We were informed that this was done in the belief that such provision promoted sobriety of living and hence greater efficiency of service. The wise action of these practical business concerns fully justified the

previous expenditures of the Canal Commission for the dwellings of its employees, and indicates the wisdom of a continuance of the same policy by the Canal Commission.

IV. RECREATION.

CLUB HOUSES.

We recommend the erection of club houses at Gatun, Las Cascadas, and Paraiso, and, as soon thereafter as possible, at Ancon.

Plans for buildings, costing approximately \$17,500 each, have already been prepared and approved by the building department. The proposal has been made to construct at Ancon a club house of the size of the four association houses now in operation at Cristobal, Gorgona, Empire, and Culebra, the cost of each of which was \$35,000.

These comfortable club houses, wisely but in no way extravagantly equipped, and excellently conducted under the auspices of the Young Men's Christian Association, we commend without reservation. They fill a necessary place in the somewhat artificial life on the Canal Zone, where a body of loyal Americans, far removed from the uplifting influences of home and friends, are performing with genuine enthusiasm a work of great importance to their country, in a climate demoralizing to the white man.

To the clerical personnel and industrial workers alike, excepting only those men whose families are on the Isthmus, these association houses constitute the home as well as the club, the comfortable retreat and the common gathering place for associates and acquaintances. There the man who works with his brain and the man who labors with his hands meet on terms of good fellowship.

When a private corporation constructs club houses for its employees—such, for example, as the United States Steel Corporation is building at points not more than 100 miles distant from Duluth—surely the American Government should provide a sufficient number of these houses for its citizens who are, for the time being, expatriated 2,000 miles from home.

Club houses are as much needed at Gatun, Las Cascadas, and Paraiso as at the points on the Canal Zone which now have these facilities, and, in our judgment, the need is equally as great at Ancon, where the permanent offices of administration of the Panama Canal will be located.

In regard to the management of the club houses, we make two suggestions:

(1) Employees in towns having no association buildings should enjoy the privileges of such houses when visiting points on the Isthmus provided with them. Many unmarried men, finding the monotony of the work under tropical conditions unendurable, seek amusement in the larger communities, where the saloons, dance halls, and other evil resorts are the only social resource with open doors. As a condition to the use of association buildings, registration in a visitors' book might be required.

(2) The officers of the Young Men's Christian Association in charge of the club houses, cooperating with the women's organiza-

tions, could do more than has been done, in our judgment, in the matter of providing entertainments in the smaller settlements on the Canal Zone.

READING AND WRITING ROOMS.

In all quarters of Europeans and West Indians, these being smaller and more crowded than American quarters, space should be reserved as reading and writing rooms. In several messes and camps such rooms have been provided, and their use justifies and demands a further supply.

CONCLUSION.

In concluding its report the special commission desires to emphasize three striking excellencies of the canal administration which in our judgment are of general applicability.

The first is the recognition by the Government that the housing, feeding, and health of its employees bear a vital relation to their economic efficiency. As a consequence of the recognition of these factors, an enterprise, abandoned by a powerful nation largely because of the frightful sacrifice of human life involved and believed to be inevitable, is now being carried on with signal success, with a high average of health and working power of its employees. The success achieved and the methods employed deserve study and imitation by large employers of labor and by States and cities which concern themselves with the welfare of their industrial classes.

The second significant feature is the relation between the Government and its employees. The Government has slowly but steadily developed its plans for the hearing and settlement of the grievances and complaints of its employees. Every worker having a grievance may obtain a hearing or review of his case by the chief authority of the Isthmian Canal Commission or by his personal representative. By this policy the chairman of the commission is constantly informed regarding the conduct and methods of his subordinate officials in their dealings with the employees. In many large concerns the investigators of complaints of employees are the very ones directly or indirectly criticised. The complete separation in administration of the proposed industrial court of review, if we may so term it, from the superintending force and its close association with the head administrator makes it a model for other large industrial enterprises.

The third point of excellence is the liberal provision for relief in cases of temporary disability. This relief is wisely dispensed, is free from serious abuses, as far as we could discover, and is admirable within its scope. But the statute determining the relief to be granted to those permanently disabled and to those dependent upon them is inadequate. We desire to express our conviction that such limited provision is unjust to the individual sufferers and more expensive for the public than adequate relief wisely apportioned and administered. We recommend, therefore, that the relief of those permanently disabled receive careful attention, with a view to determine the extent and character of the indemnity to be granted in such cases and the proper methods of its distribution.

In the performance of this work we are under the scrutiny of the entire world, especially of our neighbors in Central and South

America, before whom we must make good our profession of high social and industrial ideals. We trust that the liberal and progressive policy adopted in civil administration, in education, and in the care and treatment of employees of all races will be maintained, and that progress and improvement will be the watchwords to the end.

All of which is respectfully submitted.

JAMES BRONSON REYNOLDS,
SAM'L B. DONNELLY,
HENRY BEACH NEEDHAM.

APPENDIX.

STATISTICS OF COMMISSION QUARTERS.

Statement of occupants of Commission quarters, as of June 30, 1907, and April 1, 1908.

	June 30, 1907.								April 1, 1908.							
	Married.						Bachelor quarters.		Married.						Bachelor quarters.	
	Single houses.			Houses with two or more apartments.			Miscellaneous.	Ordinary.	Single houses.			Houses with two or more apartments.			Miscellaneous.	Ordinary.
	Men.	Women.	Children.	Men.	Women.	Children.			Men.	Women.	Children.	Men.	Women.	Children.		
GOLD EMPLOYEES.																
La Boca.....	12	13	8	12	13	7	.....	115	14	15	13	21	23	19	a 2	153
Ancon.....	50	48	31	23	24	18	.....	170	52	49	36	55	63	41	.....	202
Corozal.....	9	9	16	.....	.....	.....	a 69	.....	12	12	21	9	9	7	a 98	.....
Miraflores.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	1	.....	.....	.....	.....	19
Pedro Miguel.....	17	18	18	14	14	6	a 1	108	16	19	18	34	38	26	a 1	135
Paraiso.....	41	42	39	29	28	23	.....	140	43	44	43	45	44	34	.....	238
Culebra.....	69	70	78	56	55	42	a 196	367	93	98	96	125	120	97	a 112	237
Empire.....	46	45	47	40	38	28	.....	557	70	70	69	119	121	77	.....	680
Las Cascadas.....	14	14	11	12	12	13	.....	235	14	15	24	61	62	48	.....	180
Bas Obispo.....	20	23	16	.....	.....	.....	.....	92	19	19	7	9	9	6	.....	61
Santa Cruz district.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gorgona.....	32	37	45	38	33	27	.....	652	42	46	51	113	110	106	.....	36
San Pablo.....	.....	.....	.....	.....	.....	.....	.....	.....	11	5	2	2	2	4	a 2	498
Tabernilla.....	6	6	4	2	2	.....	.....	67	13	13	11	14	14	14	.....	158
Bohio.....	5	6	9	.....	.....	.....	.....	6	8	7	10	.....	.....	.....	.....	84
Gatun.....	12	11	9	21	21	19	.....	168	14	15	20	57	60	51	.....	6
Cristobal.....	16	20	11	95	100	77	a 160	585	16	18	7	125	139	119	178	224
Porto Bello.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	638
Total.....	349	362	342	342	340	260	a 436	3,262	445	460	438	789	814	649	393	3,594
WEST INDIAN LABORERS.																
La Boca.....	.....	.....	.....	16	17	23	.....	120	.....	.....	.....	16	18	27	.....	144
Ancon.....	.....	.....	.....	20	12	21	.....	760	.....	.....	.....	14	17	13	.....	331
Corozal.....	2	1	1	.....	.....	.....	.....	210	2	3	.....	.....	.....	.....	b 60	120
Miraflores.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	.....	.....	168
Pedro Miguel.....	.....	.....	.....	51	30	16	.....	260	.....	.....	.....	57	26	18	.....	170
Paraiso.....	9	10	14	140	180	115	.....	641	9	11	16	149	201	126	.....	547
Culebra.....	2	2	5	143	148	110	.....	1,026	6	6	10	126	126	146	.....	782
Empire.....	1	1	2	168	169	133	c 34	840	3	3	2	169	162	105	c 21	790
Las Cascadas.....	.....	.....	.....	36	39	19	.....	674	2	2	.....	84	82	43	.....	381
Bas Obispo.....	.....	.....	.....	18	17	8	.....	219	.....	.....	.....	11	11	7	.....	360
Santa Cruz district.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gorgona.....	.....	.....	.....	115	122	133	.....	988	4	5	3	10	12	9	.....	100
San Pablo.....	.....	.....	.....	35	41	65	.....	52	.....	.....	.....	93	86	116	.....	886
Tabernilla.....	.....	.....	.....	21	21	36	.....	1,258	.....	.....	.....	9	9	2	.....	365
Bohio.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	21	24	c 28	397
Gatun.....	.....	.....	.....	50	53	36	.....	936	.....	.....	.....	46	30	28	.....	.....
Cristobal.....	.....	.....	.....	240	260	186	.....	1,850	.....	.....	.....	20	18	10	.....	1,458
Porto Bello.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	283	277	295	.....	1,385
Total.....	14	14	22	1,053	1,109	901	34	9,864	26	30	33	1,110	1,094	969	109	8,495

a Quartered in hotel.

b Quartered in tent.

c Quartered in car.

Statement of occupants of Commission quarters, etc.—Continued.

	June 30, 1907.								April 1, 1908.							
	Married.						Bachelor quarters.		Married.						Bachelor quarters.	
	Single houses.			Houses with two or more apartments.			Miscellaneous.	Ordinary.	Single houses.			Houses with two or more apartments.			Miscellaneous.	Ordinary.
	Men.	Women.	Children.	Men.	Women.	Children.			Men.	Women.	Children.	Men.	Women.	Children.		
EUROPEAN LABORERS.																
La Boca.....				18	17	10		120				18	17	12		144
Ancon.....												7	6	7		81
Corozal.....								190							a 12	271
Miraflores.....									1	1	2	2	2	2		350
Pedro Miguel.....								316				10	10	12	a 15	239
Paraiso.....	6	6	7	6	8	6		253	6	7	8	7	8	6		341
Culebra.....	1	1	3	13	13	9		605	2	2	1	40	40	58		528
Empire.....								906				46	46	55		334
Las Cascadas.....				29	30	19		481				49	48	25		593
Bas Obispo.....				6	6	4		633				14	12	12		343
Santa Cruz district.....												6	6	8		243
Gorgona.....				3	3	3		477	1	1	3	10	11	19		433
San Pablo.....												2	2	2		306
Tabernilla.....																290
Gatun.....								951				23	23	23		633
Cristobal.....																362
Porto Bello.....																292
Total.....	7	7	10	75	77	51		4,932	10	11	14	244	231	241	27	5,783

a Quartered in car.

NOTE.—At Gatun there are 7 tents and 1 boathouse occupied by West Indian laborers.

Report of the department of labor, quarters and subsistence, month ending April 30, 1908.

FORCE ACTUALLY WORKING ON THE LAST DAY OF MONTH.

Department.	Gold men.	Silver men.								Total.	Total gold and silver.
		Artisans.			Laborers.						
		Monthly.	32 cents and over.	26 cents.	European.		Laborers.				
					40 cents.	32 cents.	26 cents.	20 cents.	13½ cents.		
Construction and engineering.....	3, 733	1, 927	4, 663	2, 110	4, 512	572	720	1, 192	1, 279	16, 985	20, 768
Labor, quarters, and subsistence.....	169	1, 406	70	.....	225	21	1	39	318	2, 080	2, 249
Civil administration.....	429	48	18	.....	.....	.....	.....	.....	.....	66	495
Sanitation.....	418	892	a 176	.....	36	.....	8	524	386	2, 022	2, 440
Disbursements.....	103	14	.....	.....	.....	.....	.....	.....	.....	14	117
Examiner of accounts.....	48	1	.....	.....	.....	.....	.....	.....	.....	1	49
Total.....	4, 950	4, 298	4, 927	2, 110	4, 773	593	729	1, 755	1, 983	21, 168	26, 118

a Of whom 92 are non-European laborers, scavengers, scythemen, etc., Panama Railroad force, 7,052.

FORCE WORKING APRIL 30, 1908.

Position.	Gold.	Silver.	Total.
Manager.....	1	.....	1
Employment agents.....	5	.....	5
Superintendents.....	4	.....	4
Supervisors.....	14	.....	14
Assistant supervisors.....	7	.....	7
Assistant hotel manager.....	1	.....	1
Clerks.....	50	17	67
Timekeepers.....	13	.....	13
Interpreter.....	1	.....	1
Messenger.....	.....	11	11
Superintendent administration building.....	1	.....	1
Watchman, administration building.....	1	.....	1
Foremen.....	9	51	60
Janitors:			
Gold quarters.....	.....	272	272
Silver quarters.....	.....	175	175
Watchmen:			
Gold quarters.....	.....	47	47
Silver quarters.....	.....	39	39
Laborers:			
General.....	.....	155	155
Utility.....	.....	422	422
Helpers.....	.....	373	373
Lamplighter.....	.....	1	1
Artisans.....	.....	29	29
Gardeners.....	1	15	16
Furniture repairers.....	7	15	22
Stewards.....	32	11	43
Cooks.....	8	95	103
Waiters.....	.....	259	259
Baker.....	1	.....	1
Storekeepers.....	7	13	20
Firemen.....	.....	3	3
Laundresses.....	.....	5	5
Chambermaids.....	.....	8	8
Bellboys.....	.....	10	10
Housekeeper.....	.....	1	1
Linen girl.....	.....	1	1
Scrubwomen.....	.....	5	5
Hotel clerk.....	1	.....	1
Furniture inspector.....	1	.....	1
Newsstand clerk.....	.....	1	1
Boatmen.....	.....	6	6
Waterman.....	.....	1	1
Carpenters.....	.....	36	36
Seamstresses.....	.....	2	2
Copyists.....	2	.....	2
Accountant.....	1	.....	1
Head janitor.....	.....	1	1
Salesman.....	1	.....	1
Total.....	169	2,080	2,249

FORCE WORKING IN HOTELS, MESSES, AND KITCHENS ON APRIL 30, 1908.

	Hotels.		E. L. messes.		C. L. kitchens.		Hotel Tivoli.		Total.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
Assistant hotel manager.....							1	.....	1	.....
Hotel clerks.....		5	.....	.....	.....	.....	3	.....	3	5
Stewards.....	20	.....	9	7	1	4	1	.....	31	11
Cooks.....	6	28	.....	32	.....	31	2	4	8	95
Baker.....							1	.....	1	.....
Helpers.....		167	.....	120	.....	74	.....	12	.....	373
Waiters.....		221	.....	20	.....	1	.....	17	.....	259
Storekeepers.....	4	10	1	3	.....	.....	1	.....	6	13
Chambermaids.....								8	.....	8
Housekeeper.....								1	.....	1
Linen girl.....								1	.....	1
Scrubwomen.....								5	.....	5
Janitors.....		1	.....	.....	.....	.....	.....	.....	.....	.....
Bellboys.....								10	.....	11
Newsstand clerk.....								10	.....	10
Watchmen.....								1	.....	1
Seamstresses.....		4	.....	1	.....	.....	.....	3	.....	8
Laundry women.....		2	.....	.....	.....	.....	.....	.....	.....	2
Firemen.....		2	.....	.....	.....	1	.....	.....	.....	3
.....		3	.....	.....	.....	.....	.....	.....	.....	3
Total.....	30	443	10	183	1	111	9	72	50	809

Contract laborers received during the month.

Europeans.....	116
West Indians.....	188
Total.....	304

Report of immigration and emigration for Isthmian ports for April, 1908.

Passengers landed from foreign ports:	
Cabin.....	1,175
Steerage.....	2,213
Total.....	3,388
Passengers embarked for foreign ports:	
Cabin.....	1,162
Steerage.....	1,736
Total.....	2,898
Apparent increase for the month from foreign ports:	
Cabin.....	13
Steerage.....	477
Total.....	490
Persons arriving from coast towns on small launches and sailing craft.....	2,293
Persons leaving for coast towns on small launches and sailing craft.....	1,525
Apparent increase for the month from coast towns.....	768
Total number of persons landed.....	5,681
Total number of persons embarked.....	4,423
Total apparent increase for the month.....	1,258

Changes in personnel.

Additions:	
Employed in the United States.....	95
Employed on the Isthmus.....	144
Reemployed on the Isthmus.....	94
Total employments on the Isthmus.....	238
Transferred from the Panama Railroad Company.....	2
Total.....	335
Separations:	
Voluntarily left the service.....	174
Discharged.....	95
Resigned.....	46
Died.....	2
Changed to silver basis.....	14
Transferred to the Panama Railroad Company.....	9
Total.....	340
Total separations.....	340
Total additions.....	335
Net separations.....	5

Employments in the United States April, 1908.

Department of construction and engineering:

Mechanical division—	
Axle turner.....	1
Blacksmith.....	1
Boilermakers.....	11
Car carpenters.....	13
Car inspectors and repairers.....	2
Machinists.....	17
Planing-mill machine hand.....	1
Total.....	46
Pacific division—	
Supervisor.....	1
Gatun division of dam construction—	
Clerk.....	1
Locomotive engineer.....	1
Marine engineer.....	1
Rodman.....	1
Total.....	4

Department of construction and engineering—Continued.

Chagres division—	
Conductor.....	1
General foreman.....	1
Pile-driver engineer.....	1
Steam-shovel craneman.....	1
Track foreman.....	1
Total.....	5
La Boca dredging division—	
Calker.....	1
Machinist.....	1
Shipfitters.....	5
Total.....	7
Colon dredging division—	
Chippers and calkers.....	2
Steamboat engineer.....	1
Total.....	3
Material and supplies—	
Clerk.....	1
Foreman.....	1
Total.....	2
Total employments in the United States for department of construction and engineering.....	68
Department of labor, quarters and subsistence:	
Clerks.....	2
Cook (\$150 silver per month).....	1
Steward.....	1
Storekeeper.....	1
Total.....	5
Department of civil administration:	
Policemen.....	3
Department of sanitation:	
Nurses.....	9
Physicians.....	2
Total.....	11
Panama Railroad Company:	
Bridge erecters.....	8

RECAPITULATION.

Department of construction and engineering.....	68
Department of labor, quarters and subsistence.....	5
Department of civil administration.....	3
Department of sanitation.....	11
Panama Railroad Company.....	8
Total employments in United States, April, 1908.....	95

Quarters occupied by gold employees.

District.	Married.					Bachelor.				
	Houses.	Quar- ters.	Men.	Wo- men.	Chil- dren.	Houses.	Rooms.	Occu- pants.	Jani- tors.	Cost of janitor service.
Ancon.....	63	96	96	108	83	7	137	205	11	\$255.00
Corozal.....	15	24	23	22	30	3	72	122	3	75.00
La Boca.....	23	44	34	38	31	4	78	144	7	185.00
Pedro Miguel.....	26	48	50	57	44	8	74	135	7	192.50
Paraiso.....	53	74	86	90	91	14	11	238	8	205.00
Culebra.....	126	209	206	215	175	21	225	323	20	525.00
Empire.....	102	194	201	209	143	32	312	551	30	775.00
Las Cascadas.....	36	72	73	75	78	8	98	170	11	302.50
Bas Obispo.....	22	28	26	26	14	4	61	88	6	142.20
Matachin.....	6	6	5	6	5	10	45	65	3	75.00
Gorgona.....	76	148	162	159	155	23	278	487	30	842.50
San Pablo.....	9	10	12	11	5	12	74	138	7	175.00
Tabernilla.....	20	29	29	29	31	3	50	76	4	105.00
Gatun.....	35	54	81	85	85	15	143	263	12	317.50
Cristobal.....	65	146	148	159	134	32	500	^a 843	31	841.25
Porto Bello.....	1	1	1	1	.....	^b 1	8	54	2	53.00
Total.....	678	1,183	1,233	1,290	1,104	197	2,166	3,902	192	5,066.45

^a Of whom 57 are women.

^b And 1 tent.

Quarters occupied by colored laborers.

District.	Married.					Bachelor.				
	Houses.	Quar- ters.	Men.	Women.	Child- ren.	Houses.	Rooms.	Occu- pants.	Jani- tors.	Cost of janitor service.
Ancon.....	2	2	2	2	5	8	40	260	4	\$82.50
Corozal.....	3	5	5	5	5	^a 8	12	348	4	70.00
La Boca.....	2	15	15	13	24	5	5	325	3	41.96
Pedro Miguel.....	9	36	57	26	18	5	21	170	3	52.50
Paraiso.....	39	145	149	201	126	17	19	547	5	87.50
Culebra.....	31	127	127	128	114	24	64	793	7	127.50
Empire.....	28	156	172	165	114	24	55	597	9	157.50
Las Cascadas.....	14	90	86	84	45	22	27	347	6	105.00
Bas Obispo.....	2	2	11	5	7	15	15	359	4	109.70
Matachin.....	7	8	10	11	10	6	6	69	1	27.50
Gorgona.....	26	90	101	92	117	22	39	784	9	247.50
San Pablo.....	2	9	9	9	2	5	5	371	2	55.00
Tabernilla.....	5	19	19	19	22	12	20	427	4	110.00
Gatun.....	18	45	71	57	42	^b 34	40	1,569	8	214.40
Cristobal.....	52	247	247	282	302	20	57	1,415	8	237.00
Porto Bello.....	.....	.....	.....	.....	.....	^c 1	.....	197	1	26.50
Total.....	240	996	1,081	1,104	953	228	425	8,578	78	1,752.06

^a And also 4 tents.^b Includes 9 tents and 1 boathouse.^c And 6 tents.*Quarters occupied by European laborers.*

District.	Married.					Bachelor.				
	Houses.	Quar- ters.	Men.	Wo- men.	Child- ren.	Houses.	Rooms.	Occu- pants.	Jani- tors.	Cost of janitor service.
Ancon.....	5	5	5	5	14	3	3	124	1	\$22.50
Corozal.....	2	3	3	3	4	15	15	664	4	70.00
La Boca.....	3	15	15	13	11	4	4	174	2	23.30
Pedro Miguel.....	3	10	10	10	12	5	5	239	4	70.00
Paraiso.....	3	13	13	14	13	8	8	341	3	52.50
Culebra.....	7	47	47	47	73	13	24	483	5	87.50
Empire.....	12	72	52	56	55	12	9	343	5	87.50
Las Cascadas.....	.....	.....	.....	.....	.....	18	18	400	7	122.50
Culebra.....	10	48	49	48	25	.....	.....	.....	.....	.....
Bas Obispo.....	2	4	22	3	11	11	11	267	5	137.50
Matachin.....	3	5	5	5	10	15	15	210	3	82.50
Gorgona.....	4	10	10	10	14	10	21	401	5	137.40
San Pablo.....	2	2	2	2	.....	9	9	304	3	82.50
Tabernilla.....	.....	1	1	1	1	7	7	290	2	55.00
Gatun.....	2	20	20	20	21	8	8	591	3	80.40
Cristobal.....	.....	.....	.....	.....	.....	5	5	243	3	85.75
Porto Bello.....	.....	.....	.....	.....	.....	^a 3	3	282	2	53.00
Total.....	58	255	254	237	264	146	165	5,356	57	1,249.85

^a And 1 tent.

Occupants of Isthmian Canal Commission quarters, April, 1908.

Districts.	Gold employees.			West Indians.			Europeans.		
	Men.	Women.	Children.	Men.	Women.	Children.	Men.	Women.	Children.
Ancon.....	301	108	83	262	2	5	129	5	14
Corozal.....	145	22	30	353	5	5	667	3	4
La Boca.....	178	38	31	340	18	24	189	13	11
Pedro Miguel.....	165	57	44	227	26	18	249	10	12
Paraíso.....	324	90	91	696	201	126	354	14	13
Culebra.....	529	215	175	920	128	114	530	47	73
Empire.....	752	209	143	769	165	114	395	56	55
Las Cascadas.....	243	75	78	433	84	45	449	48	25
Bas Obispo.....	114	26	14	370	5	7	289	3	11
Matachin.....	70	6	5	79	11	10	215	5	10
Gorgona.....	649	159	155	885	92	117	411	10	14
San Pablo.....	150	11	5	380	9	2	306	2	.....
Tabernilla.....	105	29	31	446	19	22	291	1	1
Gatun.....	344	85	85	1,640	57	42	611	20	21
Cristobal.....	934	216	134	1,662	282	302	243	.....	.....
Porto Bello.....	55	1	.....	197	.....	.....	282	.....	.....
Total.....	5,078	1,347	1,104	9,659	1,104	953	5,610	237	264

SUMMARY.

	Married.					Bachelor.				
	Houses occupied.	Quarters occupied.	Men.	Women.	Children.	Houses occupied.	Rooms occupied.	Occupants.	Janitors.	Cost of janitor service.
Gold employees.....	678	1,183	1,233	1,290	1,104	197	2,166	3,902	192	\$5,066.45
Colored laborers.....	240	996	1,081	1,104	953	228	425	8,578	78	1,752.06
European laborers.....	58	255	254	237	264	146	165	5,356	57	1,249.85

Statement of number of requests for repairs received by superintendents, divided as to buildings of French and American construction, with number approved and estimated cost of those approved.

Division.	Requests received.		Requests approved.		Estimated cost.	
	American.	French.	American.	French.	American.	French.
La Boca.....	16	4	16	4	\$6,538.00	\$30.00
Empire.....	18	6	17	4	3,385.70	1,300.00
Gorgona.....	19	16	19	16	8,240.74	4,511.81
Cristobal.....	39	2	39	2	3,493.50	.....

^a Incomplete.

Construction of the following buildings was authorized during the month:

Combined machine shop and blacksmith shop, Miraflores Lock site.....	1
European mess hall, Pedro Miguel junction.....	1
Cook shed, Nifia Bonita.....	1
Type 24 quarters, Culebra.....	1
Standard type laborers' barracks, Pedro Miguel junction.....	7
Standard type combined church and lodge hall, Empire.....	1
Standard type laborers' barracks, Porto Bello.....	2
Type 17 quarters, Porto Bello.....	2

The following is a statement of the applications for family quarters on file April 1 and May 1:

	April 1.	May 1.		April 1.	May 1.
Ancon.....	31	19	Gorgona.....	51	45
La Boca.....	16	18	San Pablo.....	4	3
Corozal.....	16	10	Tabernilla.....	1	51
Pedro Miguel.....	20	22	Gatun.....	61	93
Paraiso.....	31	26	Cristobal.....	107	9
Culebra.....	22	24	Porto Bello.....	7	
Empire.....	77	72	Total.....	465	403
Las Cascadas.....	18	11			
Matachin.....	3				

During the month of April 142 tenders of quarters were made, and most of these apartments were occupied. For various reasons, including separations from the service, transfers, ineligibility, etc., 58 applications were during the month dropped from the lists.

The following statement shows the number of packages of commissary and food supplies, including ice and containers of sterilized water, delivered during the month by this department to hotels, messes, kitchens, and quarters:

District.	Packages of commissary and food supplies and ice delivered to quarters.	Packages of same delivered to hotels, messes, and kitchens.	Containers of sterilized water delivered to quarters, hotels, and messes.
La Boca.....	4,269	575	
Ancon.....	6,536	1,137	
Corozal.....	2,249	1,141	
Miraflores.....		527	
Pedro Miguel.....	2,394	723	
Paraiso.....	3,195	640	
Culebra.....	10,013	1,372	6,275
Empire.....	8,524	1,397	6,804
Las Cascadas.....	2,941	1,110	2,146
Gorgona.....	7,853	2,087	5,700
Bas Obispo.....	1,011	791	1,092
San Pablo.....	1,223	2,022	
Tabernilla.....	1,820	1,655	280
Matachin.....	459	577	
Bohio.....	945		364
Gatun.....	6,991	2,313	3,570
Cristobal.....			1,582
Total.....	60,423	18,067	27,813

Subsistence.

AMERICAN LABORERS' HOTEL.

[Charge 90 cents per day.]

Hotels.	Expense.	Income.	Hotels.	Expense.	Income.
Porto Bello.....	\$1,783.76	\$1,640.62	Culebra.....	\$7,454.80	\$6,920.50
Cristobal.....	7,500.80	8,026.40	Paraiso.....	4,195.52	3,790.05
Gatun, No. 1.....	3,376.63	3,552.10	Pedro Miguel.....	2,459.22	2,317.20
Gatun, No. 2.....	801.26	685.20	Miraflores.....	657.94	618.30
Tabernilla.....	1,925.06	1,463.70	Corozal.....	2,219.24	1,869.20
Caimito Mulato.....	1,403.93	1,238.90	La Boca.....	2,660.79	2,449.60
San Pablo.....	2,410.76	2,011.00			
Gorgona.....	7,501.12	7,953.10		61,331.18	58,665.88
Santa Cruz.....	1,363.37	1,239.90		58,665.88	.....
Bas Obispo.....	1,627.15	1,458.30			
Las Cascadas.....	3,522.82	3,372.00	Net loss.....	2,665.30	.....
Empire.....	8,462.01	8,039.80			

EUROPEAN LABORERS' MESSES.

[Charge 40 cents per day.]

Gatun, No. 51.....	\$2,298.86	\$2,470.00	Cerro, No. 60.....	\$779.37	\$799.20
Mamei, No. 52.....	846.67	716.90	Gold Hill, No. 61.....	862.14	804.80
Juan Grande, No. 53.....	939.11	784.90	Enterprise, No. 62.....	2,621.02	2,624.00
Chagres, No. 54.....	1,463.42	1,540.40	Cucuracha, No. 63.....	1,006.86	918.00
Haut Obispo, No. 56.....	1,354.40	1,232.80	Pedro Miguel, No. 64.....	2,170.48	2,224.40
Gatun, No. 68.....	3,135.74	3,186.27	Corozal, No. 65.....	2,851.97	3,003.60
Tabernilla, No. 69.....	1,621.78	1,578.40	Ancon, No. 66.....	1,168.05	1,276.40
Bas Matachin, No. 70.....	2,164.55	2,122.00	La Boca, No. 67.....	907.59	938.80
San Pablo, No. 71.....	1,548.72	1,549.20	Miraflores, No. 74.....	2,414.99	2,805.33
Cristobal, No. 72.....	2,505.79	2,683.73	Cartagenita, No. 78.....	469.12	446.40
Caimito Mulato, No. 73.....	1,204.21	1,060.40			
Porto Bello, No. 75.....	4,174.44	3,722.40		44,444.72	44,070.83
Santa Cruz, No. 76.....	1,810.37	1,664.10		44,070.83	.....
Buena Vista, No. 57.....	1,362.18	1,264.40			
Las Cascadas, No. 58.....	1,550.78	1,512.00	Net loss.....	373.89	.....
Cunette, No. 59.....	1,212.11	1,132.00			

WEST INDIAN LABORERS' KITCHENS.

[Charge 30 cents per day.]

Porto Bello, No. 50.....	\$805.74	\$666.70	Cunette, No. 22.....	\$1,103.72	\$1,087.90
Colon Dock, No. 1.....	514.69	442.80	Lirio, No. 24.....	1,693.02	1,776.90
Cristobal, Nos. 2 and 4.....	3,199.67	3,338.00	Rio Grande, Nos. 25 and 26.....	1,314.74	1,399.10
Mount Hope, No. 101.....	635.36	603.52	Cucuracha, No. 27.....	202.20	168.30
Gatun, No. 7.....	1,662.29	1,752.80	Paraiso, No. 28.....	374.77	349.40
Gatun, No. 44.....	960.97	998.70	Cartagenita, No. 29.....	597.82	576.00
Gatun, No. 45.....	415.72	367.30	Pedro Miguel, No. 31.....	488.73	411.90
Tabernilla, Nos. 10 and 11.....	1,735.74	1,870.60	Corozal, No. 33.....	371.62	343.90
San Pablo, No. 13.....	402.54	384.40	Ancon, No. 34.....	1,546.49	1,693.40
Caimito Mulato, No. 43.....	858.76	816.60	La Boca, No. 35.....	1,044.04	1,075.40
Mamei, No. 40.....	190.92	117.60	Miraflores, No. 38.....	449.50	438.30
Caballo Viejo, Nos. 14 and 15.....	2,076.03	2,168.60	Cocoli, No. 102.....	512.30	521.50
Jamaicatown, No. 16.....	748.55	748.30	Culebra Island, No. 49.....	545.04	189.30
Nina Bonita, No. 47.....	431.39	426.30			
Chagres, No. 18.....	746.58	768.80		26,461.95	26,166.52
Haut Obispo, No. 20.....	419.95	357.90		26,166.52	.....
White House, No. 21.....	393.06	306.30	Net loss.....	295.43	.....

The following statements show number of meals or rations served and the average cost per meal or ration:

HOTELS.

	Number of meals.	Cost per meal.		Number of meals.	Cost per meal.
		<i>Cents.</i>			<i>Cents.</i>
Porto Bello.....	5,469	34.901	Las Cascadas.....	11,240	31.342
Cristobal.....	26,755	28.034	Empire.....	26,799	31.575
Gatun, No. 1.....	11,840	28.553	Culebra.....	23,068	32.316
Gatun, No. 2.....	2,284	35.081	Paraiso.....	12,633	33.210
Tabernilla.....	4,879	39.456	Pedro Miguel.....	7,724	31.839
Caimito Mulato.....	4,130	33.993	Miraflores.....	2,061	31.923
San Pablo.....	6,703	35.965	Corozal.....	6,297	35.242
Gorgona.....	26,510	28.294	La Boca.....	8,165	32.587
Santa Cruz.....	4,133	33.108			
Bas Obispo.....	4,861	33.473	Total.....	203,801	^a 31.511

^a Average.

Average cost per meal for service.....	<i>Cents.</i>
Average cost per meal for supplies.....	8.019
	23.492

KITCHENS FOR WEST INDIANS.

	Number of rations.	Cost per ration.		Number of rations.	Cost per ration.
		<i>Cents.</i>			<i>Cents.</i>
Porto Bello, No. 50.....	2,222	36.2	White House, No. 21.....	1,021	38.4
Colon Dock, No. 1.....	1,476	34.8	Cunette, No. 22.....	3,626	30.4
Cristobal, Nos. 2 and 4.....	11,127	28.7	Lirio, No. 24.....	5,923	28.5
Mount Hope, No. 101.....	2,012	31.5	Rio Grande, Nos. 25 and 26.....	4,664	28.1
Gatun, No. 7.....	5,843	28.5	Cucuracha, No. 27.....	561	36.0
Gatun, No. 44.....	3,329	29.4	Paraiso, No. 28.....	1,165	32.1
Gatun, No. 45.....	1,224	33.9	Cartagenita, No. 29.....	1,920	31.1
Tabernilla, Nos. 10 and 11.....	6,235	27.8	Pedro Miguel, No. 31.....	1,373	35.5
San Pablo, No. 13.....	1,281	31.4	Corozal, No. 33.....	1,146	32.4
Caimito Mulato, No. 43.....	2,722	31.5	Ancon, No. 34.....	5,645	27.4
Mamei, No. 40.....	392	48.7	La Boca, No. 35.....	3,585	29.0
Cabello Vicjo, Nos. 14 and 15.....	7,229	28.7	Miraflores, No. 38.....	1,461	30.7
Jamaicatown, No. 16.....	2,494	30.1	Cocoli, No. 102.....	1,738	29.4
Nina Bonita, No. 47.....	1,421	30.3	Culebra Island, No. 49.....	631	36.3
Chagres, No. 18.....	2,563	29.1			
Haut Obispo, No. 20.....	1,193	35.1	Total.....	87,222	^a 30.3

^a Average.

Average cost per ration for service.....	<i>Cents.</i>
Average cost per ration for supplies.....	5.7
	24.6

MESSES FOR EUROPEANS.

	<i>Cents.</i>		<i>Cents.</i>
Gatun No. 51.....	6,175	La Boca No. 67.....	2,347
Mamei No. 52.....	1,792	Gatun No. 68.....	7,966
Juan Grande No. 53.....	1,962	Tabernilla No. 69.....	3,946
Chagres No. 54.....	3,851	Bas Matachin No. 70.....	5,305
Haut Obispo No. 56.....	3,082	San Pablo No. 71.....	3,873
Buena Vista No. 57.....	3,161	Cristobal No. 72.....	6,709
Las Cascadas No. 58.....	3,780	Caimito Mulato No. 73.....	2,651
Cunette No. 59.....	2,830	Miraflores No. 74.....	7,014
Cerro No. 60.....	1,998	Porto Bello No. 75.....	9,306
Gold Hill No. 61.....	2,012	Santa Cruz No. 76.....	4,160
Enterprise No. 62.....	6,585	Cartagenita No. 78.....	1,116
Cucuracha No. 63.....	2,295		
Pedro Miguel No. 64.....	5,561	Total.....	110,177
Corozal No. 65.....	7,509	Average.....	^a 40.34
Ancon No. 66.....	3,191		

	Cents. :
Average cost per ration for service.....	7.34
Average cost per ration for supplies.....	33.00
Net loss on Line hotels.....	\$2,665.30
Net loss on E. L. messes.....	\$373.89
Net loss on C. L. kitchens.....	\$295.43
Total net loss.....	\$3,334.62
Gold messes:	
Total number of 30-cent meals served.....	203,801
Average cost per meal.....	\$0.31511
Silver messes:	
Total number of 40-cent rations served.....	110,177
Average cost per ration.....	\$0.4034
Total number of 30-cent rations served.....	87,222
Average cost per ration.....	\$0.303
Number of meals served at line hotels.....	203,801
Number of meals served at E. L. messes.....	330,531
Number of meals served at C. L. kitchens.....	261,066
Number of meals served at Hotel Tivoli.....	9,376
Number of meals served at Washington Hotel.....	8,250
Total number of meals served.....	813,624
Washington Hotel:	
Expense.....	\$2,889.40
Revenue.....	2,475.10
Net loss.....	414.30
Hotel Tivoli:	
Expense.....	9,545.35
Revenue.....	8,286.61
Net loss.....	1,258.74
<i>Labor cost, department of labor, quarters, and subsistence, for the month of April, 1908.</i>	
Administration.....	\$2,326.67
Labor agents.....	1,400.00
Clerks and supervisors.....	12,057.00
Janitors and watchmen.....	32,603.31
	\$48,386.98
Subsistence:	
Clerks and stewards.....	7,209.12
Cooks.....	5,126.61
Waiters, helpers, etc.....	12,687.06
	25,022.79
Hotel Tivoli:	
Quarters.....	1,023.76
Subsistence.....	1,458.58
	2,482.34
Total amount of pay rolls.....	75,892.11
Services rendered other departments.....	4,801.43

SUMMARY.

Labor.—There were imported during the month 116 European and 188 West Indian laborers. The excess of independent steerage immigration over emigration through Isthmian ports was 477. The following is a comparative statement of force actually working on the last day of April with that on the last day of March:

	March.	April.
Gold force.....	4,996	4,950
Colored laborers.....	15,149	15,802
European laborers.....	5,407	5,366

There has been a greater demand for laborers recently, due to the advent of the rainy season and the fact that many of the old laborers take the early part of the rainy season as the more desirable period to visit their homes.

Some loss of labor is due to the fact that contractors in South America, on both the eastern and western side, are drawing on the Isthmus for a labor supply—their recruiting operations being confined principally to men who have been here a year or more and who, responding to the spirit of adventure, are induced to try the new field. This will force us to increase our importations of labor for a few months.

Quarters.—From the following statement of applications for family quarters on file April 1 and May 1, it will be seen that the situation remains about the same as previously reported. At practically every place there are applications which can not be filled and at several places there are many such applications.

	Applica- tions on file April 1.	Applica- tions on file May 1.
Ancon.....	31	19
La Boca.....	16	18
Corozal.....	16	10
Pedro Miguel.....	20	22
Paraíso.....	31	26
Culebra.....	22	24
Empire.....	77	72
Las Cascadas.....	18	11
Matachín.....	3	.....
Gorgona.....	51	45
San Pablo.....	4	3
Tabernilla.....	1	.....
Gatun.....	61	51
Cristobal.....	107	93
Porto Bello.....	7	9
	465	403

On April 22 I recommended the following construction to meet the pressing demands of quarters for the applicants on file and covered in the above table:

	Estimated cost.
Cristobal:	
10 type 19.....	\$72,470
4 type 14.....	30,264
Mount Hope: 4 type 14.....	30,264
Gatun:	
8 type 14.....	60,528
10 type 17.....	27,430
Caimito Mulato: 2 type 14.....	15,132
Gorgona:	
10 type 14.....	75,660
4 type 17.....	10,972
Cascadas: 1 type 14.....	7,566
Empire:	
8 type 14.....	60,528
3 type 17.....	8,229
Culebra: 2 type 17.....	5,486
Paraíso: 1 type 14.....	7,566
Pedro Miguel:	
4 type 14.....	30,264
2 type 17.....	5,486
Corozal:	
2 type 14.....	15,132
2 type 17.....	5,486
Ancon:	
5 type 14.....	37,830
5 type 17.....	13,715
	\$520,008

Subsistence.—The total estimated loss in the subsistence operations for April amounted to \$5,007.76, as against a corresponding estimated loss for March of \$22.05. Of this loss the Tivoli Hotel was responsible for \$1,258.74; the Line hotels, for \$3,079.60; European laborers' messes, for \$373.99; and the common laborers' kitchens, for \$295.43.

The loss in subsistence was due to the increased cost of the staple commodities, including beef, lard, sugar, jams, etc., and it was not deemed wise to economize at the expense of the standard of the food served.

The following is the monthly showing of subsistence operations, beginning with July, 1907, and including April, 1908:

	Gain.	Loss.
1907.		
July.....		\$1,718.42
August.....	\$1,055.56	
September.....		2,347.71
October.....	9,265.09	
November.....	8,335.26	
December.....	3,595.49	
1908.		
January.....	6,057.22	
February.....	6,017.40	
March.....		22.05
April.....		5,007.76
	34,226.02	9,095.94
	9,095.94	
Estimated net gain.....	25,230.08	

Respectfully submitted.

JACKSON SMITH, *Manager.*

The CHAIRMAN ISTHMIAN CANAL COMMISSION,
Culebra, Canal Zone.

MEMORANDUM REGARDING DRYING ROOMS AND BLANKETS—RECOMMENDATIONS OF THE CHIEF SANITARY OFFICER IN REGARD TO DRYING ROOMS AND BLANKETS FOR LABORERS.

The mortality from pneumonia in 1906 and in the early part of the following year, led to the appointment, April 11, 1907, of a board "to investigate the matter of the prevalence of pneumonia on the Canal Zone." This board submitted its report August 28 of that year, which report was "rewritten September 7, 1907." Only the revised report is available. From this report is quoted the following paragraph:

"Correlating the findings of the pathologist with the one positive conclusion reached by examination of the clinical record, i. e., that the newly arrived men are far more susceptible to pneumonia than the older residents, we believe this increased susceptibility is due mainly to the greater prevalence of this infectious catarrh (influenza) among the newly arrived, although this would naturally be accentuated by the other two factors mentioned on page No. 8—lack of blankets and ignorance of caring for themselves. With this correlation this opinion is so strongly confirmed that we accept the rôle of the prevailing infectious catarrh of the upper respiratory tract as the prime factor in predisposing to pneumonia (pneumococcus infection) predicted by Doctor Darling in his report of July, 1906, unreservedly."

The recommendations of the board were as follows:

"Since we can do nothing to prevent the employee contracting this catarrh we must do what is possible to render its course, and hence its effects, milder:

"(1) That the rôle of the infectious catarrh prevalent on the Isthmus in the causation of pneumonia be clearly recognized, and that therefore it be treated by the district physicians with that knowledge before them and considered as a graver disease than it has hitherto been.

"(2) That as far as possible the newly arrived colored laborers be grouped at places where drying houses are located, so that clothes and bedding may be rapidly dried.

"Indeed the general introduction of drying houses would, we believe, render the catarrhal symptoms of this infection less severe, and therefore less likely to lead to pneumonia.

"(3) That a blanket and a piece of matting or canvas, or two blankets, be issued to the colored man on his arrival, unless he has sufficient bed covering, and charged to his account.

"Two coverings are advised, because it is advisable to put some fabric between the cloth of the bunk and the man. The piece of matting is better (warmer) than the canvas, and has been used to cover canvas cots with great advantage by the hospital division. Naturally either is cheaper, and less good, than a second blanket.

"No loss will be caused to the laborer by making him take a blanket. In general, he buys one about the third or fourth month, paying more for it than he would for one from the commissary, and which he would have at the most critical time, for him, on the Isthmus.

"A few bunks have bottoms of metal strips, and no cloth. These especially ought to be covered by some nonconducting fabrics.

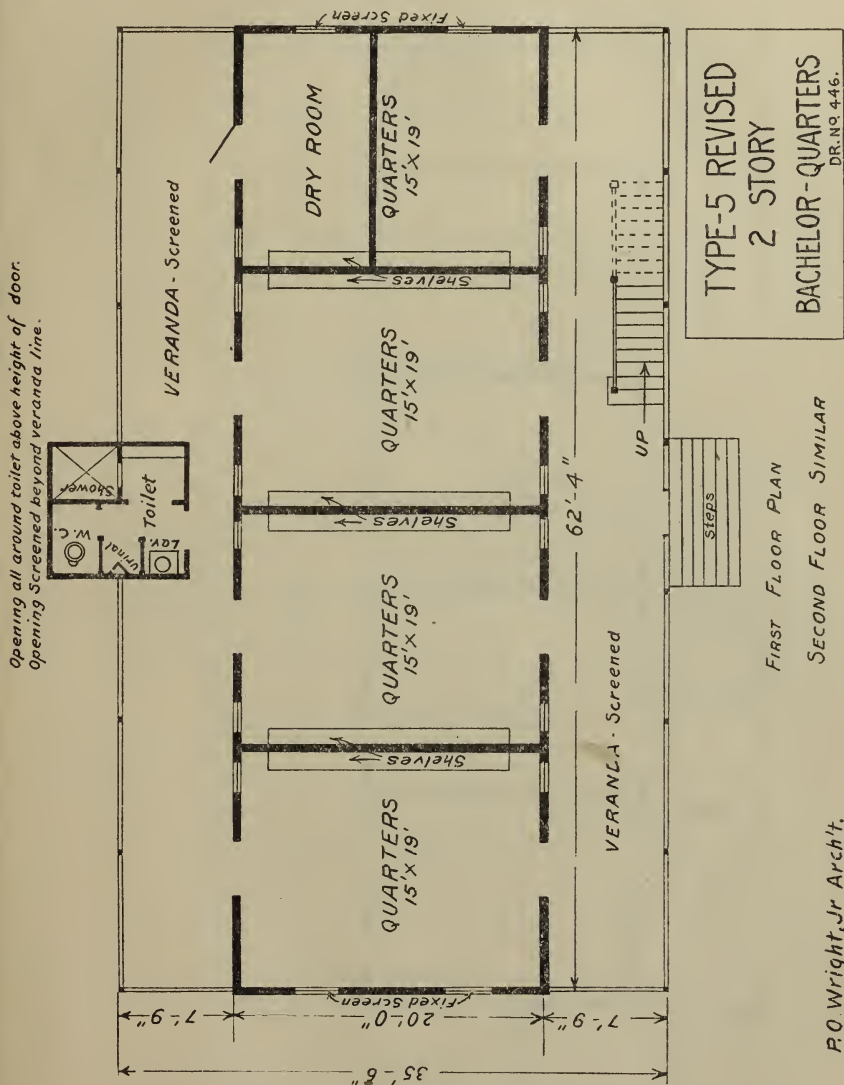
"H. R. CARTER,
"Chairman of Board."

This report was forwarded to the chairman of the Isthmian Canal Commission by Col. W. C. Gorgas, chief sanitary officer, with a letter, dated September 24, 1907, which reads in part as follows:

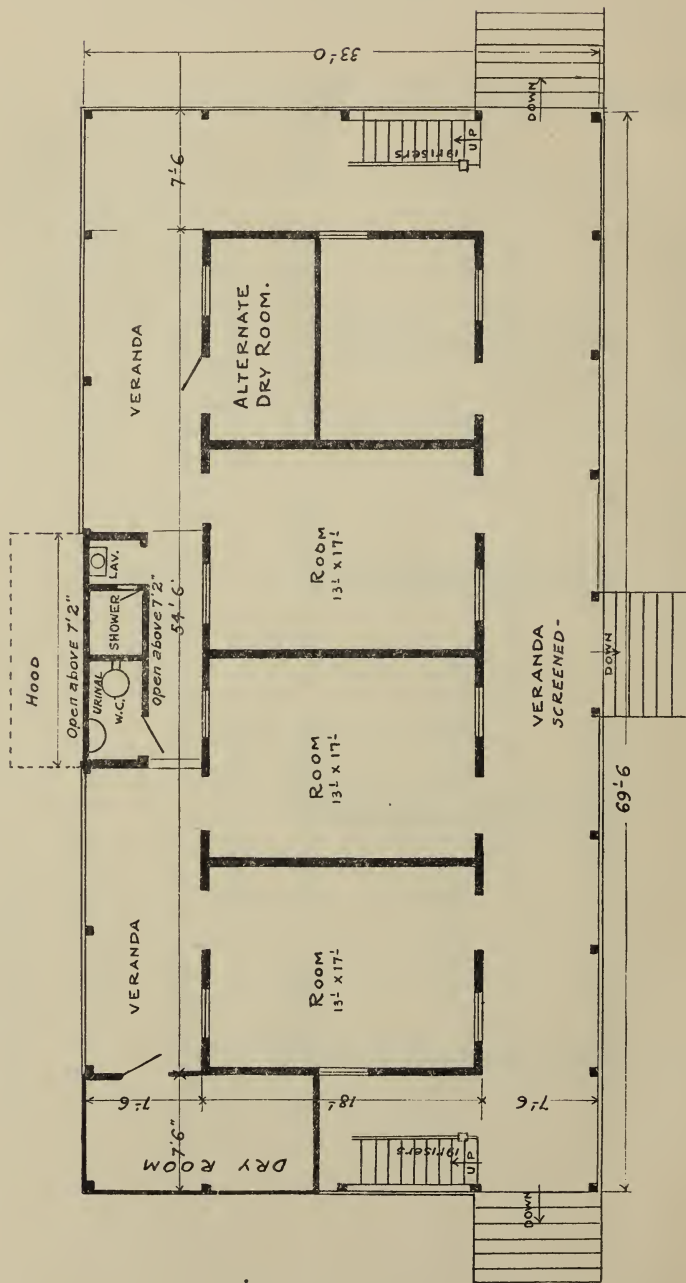
"The report is, I think, of interest and shows a deal of work and pains taken on the part of the board. In accordance with the report of the board I would recommend that a drying room be established in every camp, and that each laborer on his arrival provide himself with a change of underclothing and two blankets, and that if he has not these things that they be issued to him and charged on his pay roll."

The recommendations of the board were considered at the one hundred and thirty-fifth meeting of the Isthmian Canal Commission, held October 5, 1907, with the following result as recorded by the secretary of the commission:

"The chairman presented the report of the board appointed by the chief sanitary officer to investigate the causes of pneumonia on the Canal Zone, in which report it is recommended that each newly arrived laborer be furnished two suits of underclothing and two blankets. In accordance with these recommendations, it was the sense of the meeting that each laborer, upon his arrival, should be advised of the importance of being provided with necessary underclothing and blankets, notices to this effect to be conspicuously posted."

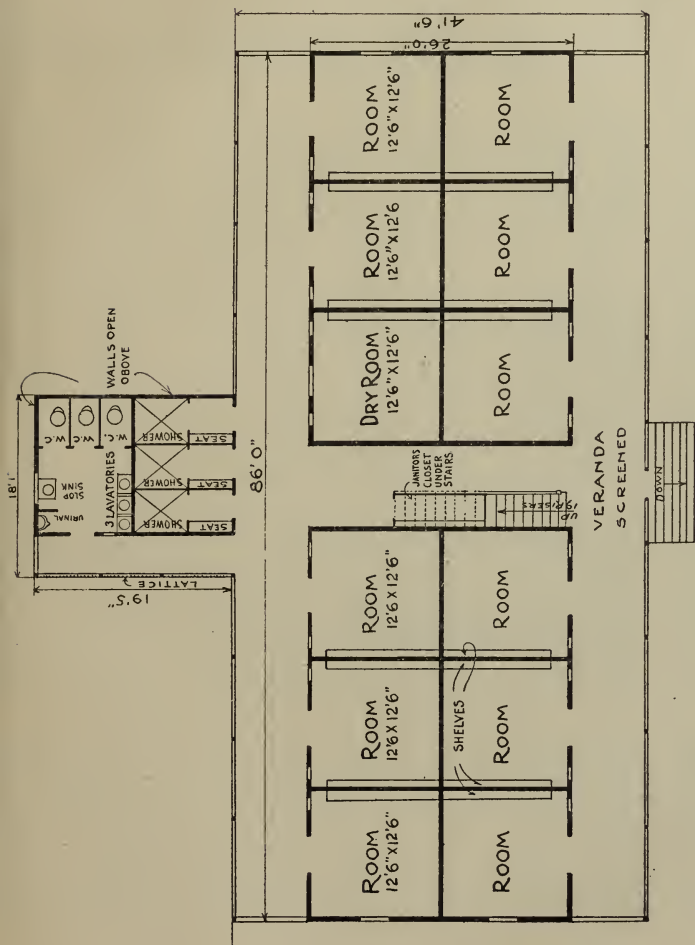


R.O. Wright, Jr Arch't.



TYPE 'A' 2
2 STORY BACHELOR
QUARTERS
DR. NO 261

FIRST FLOOR PLAN
(SECOND FLOOR SIMILAR)



FIRST FLOOR PLAN
SECOND FLOOR SIMILAR

TYPE 18
REVISED
2 STORY BACHELORS
QUARTERS
DR. NO. 447

P. OWRIGHT JR ARCHT

RATES OF PAY OF HOURLY "GOLD" FORCE.

Memorandum of force of the division of motive power and machinery on April 30, 1908.

Position.	Rate.	Number employed at—				Total.
		Gorgona shops.	Empire shops.	Paraiso shops.	Electrical subdi- vision.	
Machinist:	<i>Cents.</i>					
Special	79	2				2
Do	75	1		1		2
I	72	1				1
I	70	5	9			14
I	68	34	27	8		69
I	65	54	65	24		143
II	63	1				1
II	61		2			2
II	59	3				3
II	56	2	14	3		19
III	46	8				10
III	44	10	18	6		34
IV	40			1		1
IV	38	1	13	3		17
V	32	1	7	2		10
Machinist helper	25	1	11	1		13
Total	^a 58.82	124	169	48		341
Axle turner, II	56	2				2
Pipe fitter:						
I	70		1			1
I	68	5	3	2		10
I	65	6	8	3		17
II	56		1			1
III	44	2	1	1		4
IV	38		1	1		2
Total	^a 61.80	13	15	7		35
Coppersmith:						
I	68	2	2	1		5
I	65	1		1		2
II	56			1		1
Total	^a 65.75	3	2	3		8
Tinsmith:						
I	68	1				1
I	65	3				3
Total	^a 65.75	4				4
Molder:						
Special	81	1				1
Do	79	3				3
Do	75	1				1
I	72	2				2
I	70	3				3
I	68	11				11
I	65	14				14
II	59	1				1
III	44	1				1
V	32	1				1
Total	^a 66.84	38				38
Blacksmith:						
Special	81	1				1
Do	79	1				1
I	72		1			1
I	70		1			1
I	68	7	5	1		13
I	65	8	6	4		18
II	59		1			1
II	56	2	1	2		5
III	46	3	1			4
III	44	3	8	1		12
V	34	1				1
Total	^a 59.33	26	24	8		58

^a Average.

Memorandum of force of the division of motive power, etc.—Continued.

Position.	Rate.	Number employed at—				Total.
		Gorgona shops.	Empire shops.	Paraiso shops.	Electrical sub-division.	
Boilermaker:	<i>Cents.</i>					
Special.....	81	1				1
Do.....	79	2				2
I.....	72	1				1
I.....	70		3			3
I.....	68	2	6			8
I.....	65	11	15	6		32
II.....	59	5	2	1		8
II.....	56	1	2			3
III.....	46	1				1
III.....	44	4	2	2		8
IV.....	38	1	3	1		5
V.....	32		5	4		9
Total.....	<i>a</i> 57.54	29	38	14		81
Carpenter:						
I.....	72		1			1
I.....	70		1			1
I.....	68				1	1
I.....	65	2	2			4
II.....	61			1		1
II.....	59			2		2
II.....	56	18	4	2		24
III.....	44		2	1		3
V.....	32			1		1
Total.....	<i>a</i> 62.03	20	10	7	1	38
Car repairer and inspector:						
I.....	68	1				1
II.....	61		2			2
II.....	59	6	3			9
II.....	56	28	8	8		36
III.....	46		1			1
III.....	44	10	1			11
IV.....	38	13				13
V.....	35	1				1
V.....	32	2				2
Total.....	<i>a</i> 50.79	61	15	8		76
Car repairer:						
II.....	59		4			4
II.....	56		2	2		4
III.....	46		2	1		3
III.....	44		6	9		15
IV.....	38		6	1		7
			1	4		5
Total.....	<i>a</i> 44.34		21	17		38
Coach cabinetmaker:						
I.....	68	4				4
I.....	65	1				1
II.....	56			1		1
Total.....	<i>a</i> 65.50	5		1		6
Patternmaker:						
Special.....	81	1				1
Do.....	79	5				5
Do.....	75	2				2
Total.....	<i>a</i> 78.25	8				8
Planing-mill machine hand:						
II.....	59	6	1			6
II.....	56	4				5
III.....	44	1				1
IV.....	38	1				1
V.....	32	1				1
Total.....	<i>a</i> 53.43	13	1			14

a Average.

Memorandum of force of the division of motive power, etc.—Continued.

Position.	Rate.	Number employed at—				Total.
		Gorgona shops.	Empire shops.	Paraiso shops.	Electrical subdivision.	
Painter:	<i>Cents.</i>					
II.....	59	3				3
II.....	56	3				3
III.....	46	1				1
III.....	44		1			1
IV.....	38		1			1
Total.....	a 52.56	7	2			9
Wireman:						
I.....	68				13	13
I.....	65				13	13
II.....	56				4	4
IV.....	32				2	2
Total.....	a 63.03				32	32
Lineman, I.....	65				1	1
Electric-crane operator.....	44		1			1
Cable splicer, V.....	32	1				1
Stationary-engine fireman.....	32		1			1
Shop boy.....	20	2				2
	10			1		1
Total.....	a 16.67	2		1		3
Apprentice.....	15	2	1			3

a Average.

COMPARATIVE STATEMENT OF OVERTIME WORK.

ISTHMIAN CANAL COMMISSION—DEPARTMENT OF MOTIVE POWER AND MACHINERY.

Comparative statement of overtime, February, 1908.

	1908.		1907.						
	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July.	June.
Machinists:									
Gorgona.....	1.82	2.05	2.26	2.65	3.78	5.63	4.77	3.49	2.86
Empire.....	4.12	4.38	3.82	5.60	8.89	9.79	11.82	13.92	9.93
Paraiso.....	12.61	9.37	15.21	11.65	13.02	15.95	16.63	13.10	14.04
Air C. site.....									4.45
Electrical subdivision.....					.21				
Average.....	3.03	4.28	4.96	5.71	7.62	9.37	9.33	9.68	7.02
All classes:									
Gorgona.....	2.18	1.27	2.68	1.85	4.11	4.60	6.78	3.35	4.54
Empire.....	3.12	4.32	3.46	5.72	9.42	10.52	11.10	12.70	8.41
Paraiso.....	12.00	9.72	11.39	12.77	14.92	19.14	16.86	17.58	14.39
Rio Grande.....					1.39	18.28	22.49	21.18	16.47
Electrical subdivision.....	2.13	1.71	.0066	5.50	6.05	2.932	4.54		
Average.....	4.56	2.86	4.03	4.84	7.45	8.41	9.23	8.20	6.96

EXPLANATORY NOTE.

Page 1. Figures are all indicative of percentages; i. e., "Machinists, Gorgona, February, 1.82" means that of the time earned by machinists at Gorgona in February 1.82 per cent was overtime.

Page 2. First column: Occupation.

Second column: Total hours time allowed.

Third column: Number of hours allowed for time worked within the regular hours for operating the shops.

Fourth column: "Reg." means regular time outside of working hours or the actual number of hours employed outside of regular working hours. This represents the "one" of the time and one-half paid for overtime.

Fifth column: "Const." means constructive overtime allowed; i. e., one-half of the number of hours worked is added to that time in allowance of overtime. This represents the "one-half" of the time and one-half paid for overtime.

Sixth column: "Total" represents the total amount of time allowed for overtime work—the whole "time and one-half" allowed for overtime.

Other pages correspondingly.

Overtime report, Gorgona (gold), February, 1908.

Occupation.	Total hours.	Reg- ular hours.	Overtime.				Amount over- time.	Total amount.	Per cent.
			Reg.	Const.	Total.	Rate.			
Blacksmith (number em- ployed, 25):						<i>Cents.</i>			
Special.....	81	81				81		65.61	.....
I.....	192	192				79		151.68	.....
II.....	1,195	1,191	3	1	4	68	2.72	812.60	0.33
III.....	1,108	1,108				65		720.20	.....
IV.....	400	400				56		224.00	.....
V.....	318	318				46		146.28	.....
VI.....	745	728	11	6	17	44	7.48	327.80	2.28
VII.....	200	200				32		64.00	.....
	4,239	4,218	14	7	21	.....	10.20	2,512.17	.40
Machinists (number em- ployed, 117):									
Special.....	367	367				79		289.93	.....
I.....	160	160				72		115.20	.....
II.....	520	520				70		364.00	.....
III.....	3,891	3,795	64	32	96	68	65.28	2,645.88	2.47
IV.....	10,676	10,550	84	42	126	65	81.90	6,939.40	1.18
V.....	48	48				59		28.32	.....
VI.....	573	556	11	6	17	56	9.52	320.78	2.97
VII.....	847	801	28	18	46	46	21.16	389.62	5.43
VIII.....	2,909	2,803	71	35	106	44	46.64	1,279.96	3.64
IX.....	328	328				38		124.64	.....
X.....	208	195	9	4	13	35	4.55	72.80	6.25
XI.....	16	16				32		5.12	.....
	20,543	20,139	267	137	404	.....	229.05	12,575.65	1.82
Molder (number employed, 42):									
Special.....	96	96				81		80.19	.....
I.....	543	480	42	21	63	79	49.77	428.97	11.60
II.....	191	188	2	1	3	75	2.25	143.25	1.56
III.....	682	680	1	1	2	70	1.40	477.40	.29
IV.....	2,636	2,635	1		1	68	.68	1,792.48	.04
V.....	2,935	2,917	12	6	18	65	11.70	1,907.75	.61
VI.....	200	200				59		118.00	.....
VII.....	88	88				44		38.72	.....
	7,371	7,284	58	29	87	.....	65.80	4,986.76	1.31
Boiler maker (number em- ployed, 35):									
Special.....	580	580				79		458.20	.....
I.....	24	24				72		17.28	.....
II.....	176	176				70		123.20	.....
III.....	42	42				68		28.56	.....
IV.....	1,762	1,743	13	6	19	65	12.35	1,145.30	1.08
V.....	999	987	8	4	12	59	7.08	589.41	1.20
VI.....	328	328				46		150.88	.....
VII.....	1,072	1,072				44		471.68	.....
VIII.....	248	248				38		94.24	.....
	5,231	5,200	21	10	31	.....	19.43	3,078.75	.63
Pipe fitter (number employed, 10):									
I.....	621	593	19	9	28	68	19.04	422.28	4.51
II.....	952	934	12	6	18	65	11.70	618.80	1.89
III.....	200	200				44		88.00	.....
	1,773	1,727	31	15	46	.....	30.74	1,129.08	2.72
Copper and tin smith (num- ber employed, 7), I.....	338	338				68		229.84	.....
	1,000	1,000				65		650.00	.....
	1,338	1,338						879.84	.....

Overtime report, Gordona (gold), February, 1908—Continued.

Occupation.	Total hours.	Reg-ular hours.	Overtime.				Amount over-time.	Total amount.	Per cent.
			Reg.	Const.	Total.	Rate.			
Pattern makers (number employed, 8), special.....	1,178	1,178	.....	.....	.....	<i>Cents.</i>	.....	930.62	.....
	366	366	.....	.....	.....	79	.....	274.50	.....
	1,544	1,544	.....	.....	.....	75	.....	1,205.12	.....
C. C. makers (number employed, 6), I.....	1,032	960	48	24	72	68	48.96	701.76	6.97
	215	200	10	5	15	65	9.75	139.75	6.98
	1,247	1,160	58	29	87	.....	58.71	841.51	6.97
Planing-mill hands (number employed, 12):	166	152	9	5	14	61	8.54	101.26	8.43
	368	344	16	8	24	59	14.16	217.12	8.52
	1,079	1,055	16	8	24	56	13.44	604.24	2.22
IV.....	128	128	.....	.....	.....	38	.....	48.64	.....
	232	232	.....	.....	.....	32	.....	74.24	.....
	1,973	1,911	41	21	62	.....	36.14	1,045.50	3.45
Carpenters (number employed, 21):	213	200	9	4	13	59	7.67	125.67	6.10
	3,709	3,478	154	77	231	56	129.36	2,077.04	6.23
	245	232	9	4	13	38	4.94	93.10	5.31
IV.....	4,167	3,910	172	85	257	.....	141.97	2,295.81	6.18
Car inspectors and repairers (number employed, 71):	1,357	1,265	61	31	92	59	54.28	800.63	6.77
	6,428	6,093	230	115	345	56	193.20	3,605.28	5.37
	866	814	35	17	52	44	22.88	381.04	6.00
III.....	776	724	35	17	52	38	19.76	294.88	6.70
IV.....	456	443	8	5	13	32	4.16	145.92	2.85
V.....	9,893	9,339	369	185	554	.....	294.28	5,227.75	5.63
Painters (number employed, 8):	581	580	1	.....	1	59	.59	342.79	.18
	589	586	2	1	3	56	1.68	329.84	.51
	405	394	7	4	11	44	4.84	178.20	2.11
III.....	1,575	1,560	10	5	15	.....	7.11	850.83	.83
Axle turner (number employed, 1), II.....	213	200	9	4	13	59	7.67	125.67	6.10

RECAPITULATION.

Blacksmiths.....	4,239	4,218	14	7	21	.....	10.20	2,512.17	0.40
Machinists.....	20,543	20,139	267	137	404	.....	229.05	12,575.65	1.82
Molders.....	7,371	7,284	58	29	87	.....	65.80	4,986.76	1.31
Boiler makers.....	5,231	5,200	21	10	31	.....	19.43	3,078.75	.63
Pipe fitters.....	1,773	1,727	31	15	46	.....	30.74	1,129.08	2.72
Copper and tin smiths.....	1,338	1,338	.....	.....	.....	.....	.....	879.84	.....
Pattern makers.....	1,544	1,544	.....	.....	.....	.....	.....	1,205.12	.....
C. C. makers.....	1,247	1,160	58	29	87	.....	58.71	841.51	6.97
Planing-mill hands.....	1,973	1,911	41	21	62	.....	36.14	1,045.50	3.45
Carpenters.....	4,167	3,910	172	85	257	.....	141.97	2,295.81	6.18
Car inspectors and repairers.....	9,893	9,339	369	185	554	.....	294.28	5,227.75	5.63
Painters.....	1,575	1,560	10	5	15	.....	7.11	850.83	.83
Axle turners.....	213	200	9	4	13	.....	7.67	125.67	6.10
	61,107	59,530	1,050	527	1,577	.....	901.10	36,754.44	2.45

Overtime report, Empire (gold), February, 1908.

Occupation.	Total hours.	Regular hours.	Overtime.				Amount over-time.	Total amount.	Per cent.
			Two-thirds.	One-third.	Total.	Rate.			
Machinists (number employed 119):						<i>Cents.</i>			
I.....	1,728	1,620	72	36	108	70	\$74.90	\$1,209.60	6.11
	1,118	1,115	2	1	3	68	2.04	760.24	.26
	9,668	9,269	266	133	399	65	259.35	6,284.20	4.12
II.....	298	288	7	3	10	61	6.10	181.78	3.35
	1,433	1,433				56		802.48	.....
III.....	2,709	2,649	40	20	60	44	26.40	1,191.96	.22
IV.....	1,858	1,729	86	43	129	38	49.02	716.04	69.42
V.....	200	200				32		64.00	.....
	19,012	18,303	473	236	709	.....	417.81	10,120.30	4.12
Boilermakers (number employed, 38):									
I.....	192	192				70		134.40	.....
	1,188	1,175	9	4	13	68	8.84	807.84	1.09
	2,892	2,799	62	31	93	65	60.45	1,879.80	3.21
II.....	200	200				59		118.00	.....
	194	183	7	4	11	56	6.16	108.64	5.67
III.....	645	630	10	5	15	44	6.60	283.80	2.32
IV.....	1,128	1,119	6	3	9	38	3.42	428.64	.79
V.....	1,388	1,274	76	38	114	32	36.48	444.16	8.21
	7,827	7,572	170	85	255	.....	121.95	4,205.28	2.88
Carpenters (number employed, 13):									
I.....	200	200				72		144.00	.....
	200	200				70		140.00	.....
	826	795	21	10	31	65	20.15	536.90	3.75
II.....	1,128	1,128				58		631.68	.....
III.....	400	400				44		176.00	.....
	2,754	2,723	21	10	31	.....	20.15	1,628.58	1.23
Blacksmiths (number employed, 22):									
I.....	16	16				72		11.52	.....
	228	216	8	4	12	70	8.40	159.60	5.26
	722	716	4	2	6	68	4.08	490.96	.83
	1,242	1,200	28	14	42	65	27.30	807.30	3.38
II.....	200	200				59		118.00	.....
	212	200	9	3	12	56	6.72	118.72	5.66
III.....	1,706	1,706				44		750.64	.....
	4,326	4,254	49	23	72	.....	46.50	2,456.74	1.88
Car repairers (number employed, 36):									
II.....	1,818	1,792	17	9	26	59	15.34	1,072.62	1.42
	3,054	2,968	57	29	86	56	48.16	1,710.24	2.81
III.....	260	260				46		119.60	.....
	1,501	1,497	3	1	4	44	1.76	660.44	.26
IV.....	701	692	6	3	9	38	3.47	266.38	1.67
V.....	203	200	2	1	3	32	.96	64.96	14.76
	7,537	7,409	85	43	128	.....	69.69	3,894.24	1.78
Pipe fitters (number employed, 11):									
I.....	383	377	4	2	6	68	4.08	260.44	1.56
	1,121	1,073	32	16	48	65	31.20	728.65	4.27
II.....	96	96				56		53.76	.....
IV.....	134	128	4	2	6	38	2.28	48.64	4.68
	1,734	1,674	40	20	60	.....	37.56	1,091.49	3.44
Painters (number employed, 2):									
II.....	195	195				56		109.20	.....
III.....	36	36				44		15.84	.....
	231	231						125.04	.....

Overtime report, Empire (gold), February, 1908—Continued.

Occupation.	Total hours.	Regular hours.	Overtime.				Amount overtime.	Total amount.	Per cent.
			Two-thirds.	One-third.	Total.	Rate.			
Mill machine hand (number employed, 1), II.....	200	200	.....	.....	.....	<i>Cents.</i> 56	.....	\$112.00	.....
Electrical construction engineer (number employed, 1).....	200	200	.....	.....	.....	44	.....	88.00	.....
Stationary engine firemen (number employed, 1)....	217	184	22	11	33	32	\$10. 56	69. 44	15.20
Engineer (number employed, 1).....	64	64	.....	.....	.....	56	.....	35.84	.....

RECAPITULATION.

Machinists.....	19,012	18,303	473	236	709	.....	417. 81	10,120.30	4. 12
Boilermakers.....	7,827	7,572	170	85	255	.....	121. 95	4,205. 28	2. 88
Carpenters.....	2,754	2,723	21	10	31	.....	20. 15	1,628. 58	1. 23
Blacksmiths.....	4,326	4,254	49	23	72	.....	46. 50	2,456. 74	1. 88
Car repairers.....	7,537	7,409	85	43	128	.....	69. 69	3,894. 24	1. 78
Pipe fitters.....	1,734	1,674	40	20	60	.....	37. 56	1,091. 49	3. 44
Painters.....	231	231	.....	.....	.....	.....	.....	125. 04	.....
Mill machine hands.....	200	200	.....	.....	.....	.....	.....	112.00	.....
Electrical construction engineers.....	200	200	.....	.....	.....	.....	.....	88.00	.....
Stationary-engine firemen.....	217	184	22	11	33	.....	10. 56	69. 44	15. 2
Engineers.....	64	64	.....	.....	.....	.....	.....	35.84	.....
	44,102	42,814	860	428	1,288	.....	724. 22	23,826. 95	3. 03

Overtime report, Paraiso (gold), February, 1908.

Occupation.	Total hours.	Regular hours.	Overtime.				Amount overtime.	Total amount.	Per cent.
			Reg.	Const.	Total.	Rate.			
Machinists (number employed, 52):						<i>Cents.</i>			
I.....	1,305	1,096	140	69	209	68	\$142. 12	\$887. 40	16. 01
	3,863	3,468	263	132	395	65	256. 75	2,510. 95	10. 22
	394	328	44	22	66	56	36. 96	220. 64	16. 75
II.....	1,507	1,272	157	78	235	44	103. 40	663. 08	15. 59
IV.....	169	136	22	11	33	40	13. 20	67. 60	19. 52
	637	572	43	22	65	38	24. 70	242. 06	10. 20
	870	755	77	38	115	32	36. 80	278. 40	13. 22
	8,745	7,627	746	372	1,118	.....	613. 93	4,870. 13	12. 61
Blacksmiths (number employed, 9):									
I.....	980	908	48	24	72	65	46. 80	637. 00	7. 35
II.....	400	400	.....	.....	.....	56	.....	224. 00	.....
III.....	221	200	14	7	21	44	9. 24	97. 24	9. 50
	1,601	1,508	62	31	93	.....	56. 04	958. 24	5. 86
Boiler makers (number employed, 12):									
I.....	1,253	997	171	85	256	65	166. 40	814. 45	20. 43
II.....	128	128	.....	.....	.....	56	.....	71. 68	.....
III.....	507	387	80	40	120	44	52. 80	223. 08	23. 66
V.....	605	468	91	46	137	32	43. 84	193. 60	22. 64
	2,493	1,980	342	171	513	.....	263. 04	1,302. 81	20. 19
Copper and tin smiths (number employed, 2):									
I.....	224	200	16	8	24	65	15. 60	145. 60	10. 71
II.....	220	200	13	7	20	56	11. 20	123. 20	9. 09
	444	400	29	15	44	.....	26. 80	268. 80	9. 91

Overtime report, Paraiso (gold), February, 1908—Continued.

Occupation.	Total hours.	Regular hours.	Overtime.				Amount overtime.	Total amount.	Per cent.
			Reg.	Const.	Total.	Rate.			
Pipe fitters (number employed, 7):						<i>Cents.</i>			
I.....	378	320	39	19	58	68	39.44	257.04	15.34
	1,024	848	117	59	176	65	114.40	665.60	17.18
II.....	224	191	22	11	33	44	14.52	98.56	14.73
	1,626	1,359	178	89	267	.....	168.36	1,021.20	16.58
Carpenters (number employed, 7):									
II.....	354	339	10	5	15	59	8.85	208.86	4.24
	486	447	26	13	39	56	21.84	272.16	8.03
V.....	212	200	8	4	12	32	3.84	67.84	5.66
	1,052	986	44	22	66	.....	34.53	548.86	6.29
Car repairers (number employed, 16):									
II.....	199	184	10	5	15	56	8.40	111.44	7.53
III.....	164	152	8	4	12	46	5.52	75.44	7.32
	1,548	1,461	58	29	87	44	38.28	681.12	5.62
V.....	1,189	1,117	48	24	72	32	23.04	380.48	6.06
	3,100	2,914	124	62	186	.....	75.24	1,248.48	6.03
C. C. maker, II.....	188	176	8	4	12	56	6.72	105.28	6.38
Planing mill hand.....	76	76	.....	.....	.....	56	.....	42.56	.....

RECAPITULATION.

Machinists.....	8,745	7,627	746	372	1,118	.....	613.93	4,870.13	12.61
Blacksmiths.....	1,601	1,508	62	31	93	.....	56.04	958.24	5.86
Boiler makers.....	2,493	1,980	342	171	513	.....	263.04	1,302.81	20.19
Copper and tin smiths.....	444	400	29	15	44	.....	26.80	268.80	9.91
Pipe fitters.....	1,626	1,359	178	89	267	.....	168.36	1,021.20	16.58
Carpenters.....	1,052	986	44	22	66	.....	34.53	548.86	6.29
Car inspectors and repairers.....	3,100	2,914	124	62	186	.....	75.24	1,248.48	6.03
C. C. makers.....	188	176	8	4	12	.....	6.72	105.28	6.38
Planing-mill hands.....	76	76	.....	.....	.....	.....	.....	42.56	.....
	19,325	17,026	1,533	766	2,299	.....	1,244.66	10,366.36	12.00

Overtime electrical subdivision, February, 1908.

Occupation.	Total hours.	Regular hours.	Overtime.				Amount overtime.	Total amount.	Per cent.
			Reg.	Const.	Total.	Rate.			
Carpenter (number employed, 1), I.....	213	200	8	5	13	\$0.68	\$8.84	\$144.84	0.610
Wiremen (number employed, 31):									
I.....	552	552	.....	.....	.....	.68	.....	375.36	.....
	4,190	4,101	58	31	89	.65	57.85	2,723.50	.0212
II.....	549	520	18	11	29	.56	16.24	307.44	.0527
III.....	200	200	.....	.....	.....	.44	.....	88.00	.....
V.....	381	381	.....	.....	.....	.32	.....	121.92	.....
	5,872	5,754	76	42	118	.....	74.09	3,616.22	.0204
Lineman (number employed, 1), I.....	200	200				.65		130.00	

RECAPITULATION.

Total employed, 33.....	6,285	6,154	84	47	131		82.93	3,891.06	.0213
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ESTIMATE OF MAXIMUM EARNING CAPACITY OF MECHANICS, SINGLE MEN,
WHO TAKE THE ANNUAL VACATION.

Rate of wages per hour.....	\$0.65
Number of weeks' work per year, 46.	
Number of hours' work per week, 48.	
Earnings per week.....	31.20
Earnings per year.....	1,435.20
Estimate overtime earnings, Gorgona shops, machinists.....	30.00
Total earnings for year.....	1,465.20
Living expenses, food per week.....	6.30
Laundry.....	1.25
Y. M. C. A. dues and expenses per week.....	.30
Incidentals.....	3.00
	10.85
Total for forty-six weeks.....	499.10
Expenses for six weeks' vacation:	
Fare to New York and return.....	40.00
Tips and incidentals on steamship.....	10.00
New York to Chicago and return, first class.....	60.00
Incidentals, including extra clothing, estimated by all employees interviewed to be about.....	260.00
Total.....	310.00
Total expenses.....	809.10
Gross earnings for forty-six weeks.....	1,465.20
Less expenses of living and vacation.....	809.10
	656.10

This estimate was agreed to by the employees interviewed as fairly accurate. It does not include the item of wearing apparel which, considering the quality of wearing apparel worn on the Isthmus, should not be less than \$75 per annum.

In the case of a married man supporting a family in the United States or on the Isthmus and who takes an annual vacation, it can readily be seen that the net earnings will be entirely consumed in the support of the family.

LIST OF COMPLAINTS OF GOLD EMPLOYEES FROM AUGUST 1, 1907, TO MAY 14, 1908.

August, 1907.—Gorgona shops: Complains of unfair treatment. Investigation showed misunderstandings, and he is recommended for promotion.

Timekeeper: Complains regarding his discharge. Investigation showed his dismissal justifiable, and, because of his unsound mental condition, he was given free transportation to the "States."

Timekeeper: Complains regarding his discharge. Investigation showed him guilty of fighting in office, etc., and that his dismissal was justifiable. He was given opportunity to obtain a transfer, and declared himself satisfied.

Clerk: Complains of unjust treatment in regard to promotion. Investigation showed him worthy of promotion, and the same was recommended and given.

August 13, 1907.—Division of building construction. Claims he was discriminated against by his chief, who refused to allow him to transfer to another department. Investigation showed transfer finally given him, so case dismissed, this being his principal grievance.

August 17, 1907.—Clerk: Complains of ill treatment, and reduction in rank and pay. Treatment shown to have been justifiable and he was continued in his present position.

August 19, 1907.—Trainman: Complains of unfair treatment in regard to his discharge. Investigation showed, September 24, that his dismissal was justifiable.

September 5, 1907.—Carpenter: Complains of his discharge owing to a reduction of force. Recommendation made for his reemployment, which was given him.

September 23, 1907.—Locomotive engineer: Complains of being excluded from Commission hotel at Gatun for disorderly conduct. Hotel's treatment found justifiable, but he is again allowed privileges of the hotel in November, 1907, and he expressed himself, verbally, as satisfied with the verdict.

September 23, 1907.—Discharged on account of refusal to support wife. As result of investigation, showing that his wife was intemperate and not worthy of support, he was given clearance papers by the chairman and reemployed.

September 24, 1907.—Carpenter: Complains of ill treatment by Commission hotel at Las Cascadas. October 16 reports of L., Q. and S. Department showed that there had been no unjust treatment.

October, 1907.—Protests against his discharge. His discharge found justifiable, and his request for a clearance not recommended.

October, 1907.—Engineer, cold-storage plant, Cristobal: Complains of his discharge. Dismissal found justifiable, but he is recommended for other employment, which was offered.

October 6, 1907.—Division of building construction: Complains of unjust discharge, etc. October 14, 1907, evidence showing that his discharge was justifiable, case was dismissed.

October 31, 1907.—Machinist: Protests against his five-day lay off without pay. Investigation finally dropped on account of his failure to attend same.

November, 1907.—Claims compensation on account of removal from lands forming part of Gorgona watershed. Advised that legal authorities state his claim is without foundation.

November 5, 1907.—Division of building construction, who was discharged, investigated. Man left Isthmus before investigation completed.

November 5, 1907.—Division of motive power and machinery: Complains of unjust discharge. Dismissal found justifiable, but was given position at lower wages.

November 13, 1907.—Carpenter: Complains of unjust discharge. Investigation finally dropped on account of failure to reply to communications.

November 21, 1907.—Requests compensation for loss of registered letter containing \$25. Director of posts, Ancon, advises that the matter has been taken up with chief post-office inspector, Washington, D. C.

November 23, 1907.—Nurse: Complains of unjust discharge. Complaint withdrawn before investigation concluded.

November 25, 1907.—Carpenter: Claims that he was injured while at work during month of June, 1907, so that he was unable to continue work, and that he was refused "sick" or "injury leave" pay. January 2, 1908, head of his department advises that as man made no report at time of injury, and as he did not possess a doctor's certificate, he could not be paid for such time, doctor's certificate being required in all such cases.

November 27, 1907.—Clerk: Complains of unjust treatment regarding his promotion. December 4, 1907, man advised that the full promotion was not made because the same was not recommended by his chief.

December 3, 1907.—Nurse: Complains of unjust discharge. Investigation arrested on request of complainant that she be permitted to withdraw her complaint.

December 5, 1907.—Ex-employee makes complaint. Referred to Major Seibert. No papers in our file showing result.

December 5, 1907.—Nurse: Complains of ill-treatment, and of being asked to resign without cause. December 11, case turned over to chief sanitary officer for final action.

December 20, 1907.—Assistant foreman: Complains that colored employees are unfairly treated by the Pedro Miguel commissary. January 31, 1908, result of investigation showed no just cause for the complaint.

December 20, 1907.—Carpenter: Complains of unjust discharge by his department, and of illtreatment while in Ancon Hospital. Found not to have been illtreated. Left the Isthmus before investigation completed.

December 24, 1907.—Clerk, who was discharged on account of intoxication, applies for reinstatement. January 4, 1908, advised that his application was refused, being contrary to commission rules, and investigation not showing any grounds for an exception in his case.

December 24, 1907.—Carpenter: Complains of illtreatment by the commissary. January 8, 1908, case settled by commissary satisfactorily to complainant.

March 5, 1908.—Ex-employee: Claims back commutation. Claim disapproved after complete investigation, his case being unsustained by proofs.

April 28, 1908.—Foreman: Complains of harsh treatment by zone courts; also by his own department in not paying him for time lost while attending court on account of his assaulting a laborer. April 30, advised that commission and courts are entirely independent of each other, and that commission had no authority to pay him for lost time.

May 14, 1908.—La Boca division: Claims that he should receive pay for difference in time from the date he was first directed by the Washington office to sail for the Isthmus, and the date, six days later, on which he was given transportation and sent to the Isthmus. Advised that his "Terms of employment" provide that employees shall receive pay only from actual date of embarkation from the United States.

REPORT OF THE ASSISTANT OF THE SECRETARY OF THE ISTHMIAN CANAL COMMISSION REGARDING COMPLAINTS OF EUROPEAN EMPLOYEES.

ISTHMIAN CANAL COMMISSION,
OFFICE OF THE SECRETARY,

Ancon, Canal Zone, May 25, 1908.

MR. JOSEPH BUCKLIN BISHOP,
Secretary, Isthmian Canal Commission,
Ancon, Canal Zone.

SIR: Complying with your request, I am submitting to you an abbreviated account of the work I have done in behalf of the European laborers up to now under your direction.

The total number of cases recorded in the office is 452, on which action has been taken. The principal complaints and their treatment are as follows:

Meal questions.—Owing to the fact that the employees directly in charge of the mess halls at the outset had very little experience with European laborers, they could not understand the wants of the men in regard to food. This point was overcome by dividing the men by nationality, giving them their native cooks, and furnishing them the food to which they had been accustomed. In some cases stewards of the same nationality as the men have been put in charge of the mess halls, and in these few instances they have given good results. It has been the policy of the commission, on finding out the exact wants in the way of eatables, to purchase the same in their native countries for the purpose of giving the men exactly the same food to which they were accustomed at home.

Ill treatment.—Supposed ill treatment has been the source of a great deal of trouble along the Canal Zone, and in most cases it was simply due to a misunderstanding between the men and the employees in charge, because of different languages. It is natural for a foreman to want his work to go on as rapidly as possible, and consequently giving orders in English to Italians and Spaniards, expecting to be obeyed at once. In some cases the laborer, failing to understand the order and not complying with it immediately, has been discharged. If the discharged man resented this action and made some comment in his native language, accompanying his remarks with gestures—as most Europeans do—the foreman, failing to understand the man, and thinking himself insulted, would in some cases use violence. The result of this would be a strike by the whole gang, and sometimes by the entire camp. I must declare that in most cases on inquiring about the facts from both men and foremen, it has resulted that the foreman was not always to blame, this owing to the rather turbulent character of the imported laborer. When complaints of this nature have been brought up to your office it has been my special care to thoroughly inquire into the matter, gaining the confidence of the men in being absolutely just in my dealings with them. The eliminating of the colored policemen from the camp has proved a very wise measure, they being supplanted by white policemen. Most of the European laborers brought here have not been accustomed to being ordered around by colored men, and the natural feeling of rebellion would break out among them when one whom they considered an inferior seemed to treat them unfairly. Experience has proved that it is practically impossible to put a colored man in charge of white labor, owing to the almost invariable abuse of authority on the part of the colored man when given opportunity.

Strikes.—These have been chiefly caused either by the bad meals served in the mess halls or by cases of ill treatment on the work. I am glad to say that while during the months of July and August we had a maximum in small strikes, the last serious one recorded came up in November: since that time only a few small cases, involving only small gangs, have happened. Having settled the food question satisfactorily, and the foremen having acquired a better understanding in the handling of this class of labor, there has been absolutely no ground for complaint, and generally the men are very well satisfied with their condition here.

Court and police cases.—As an aid to obtaining justice in the Zone courts an interpreter has been found necessary. By your direction, whenever the laborers have asked for help, either in preparing the case or simply for interpreting, my presence has been found necessary, I have helped them out. In the few criminal cases that have been tried in the courts my work has been specially in the line of getting together the witnesses, interpreting, and finding a lawyer. Of these cases, and of the petty quarrels between themselves, that have been straightened out in the court rooms, no record has been kept.

Overdeductions and pay certificates.—The love of a change in place has gotten the laborers into many money troubles, and shifting from department to department has resulted in a great deal of work for the disbursing office in trying to keep track of them

in order to make the proper deductions; consequently many complaints have been forwarded to the effect that the men have lost money. To stop this, two principal steps have been taken: First, that no man can be discharged without a regular discharge certificate, and consequently can not be reemployed without the same; second, providing that all contract labor from Europe, instead of having the passage money deducted in eleven monthly installments, shall pay for their transportation in two months. This has greatly reduced complaints in that direction, and the men can afford to, and pay willingly, the two-month rate. As a result of the better conditions in the mess houses, the men continue eating regularly with the commission, and it is easier in the distribution of the meal tickets to be correct in the charging for them. All the cases of overdeductions or loss of pay certificates taken up with the disbursing office have been thoroughly investigated and corrected, if the claim found correct.

Postal questions.—A few complaints have been recorded in the line of lost post-office orders and registered letters, and upon investigating this class of complaints it has been found that they were chiefly due to mistakes in address. In such cases the fault is usually due to the imperfect knowledge the men have of writing, and misunderstandings between the postal employees and the laborers. Post-office investigation is a slow process, as the postal authorities here first take the questions up with the New York office, who in turn takes it up with the foreign post-office to which the letter is addressed, and several months pass before the matter is closed.

Respectfully,

GIUSEPPE GARIBALDI.

WAGES PAID BY THE FRENCH ISTHMIAN CANAL COMPANY.

The statement of Mr. Cassell, for a number of years in the employ of the French company and later an employee of the Isthmian Canal Commission, now cashier in the Panama branch of the International Banking Company, in reply to a request for information regarding wages paid by the French company, was as follows:

"Masons, carpenters, and painters were paid on an average of about 30 francs a day and most of them worked on piecework and earned more. In the mason, carpenter, and painting work about three white men were employed on a house and the balance of help on the building consisted of colored skilled laborers.

"Machinists received from 35 to 40 francs per day. They were all paid by the hour on a ten-hour basis and for overtime they received double pay. Boiler makers were the highest priced skilled laborers employed. There was no schedule for boiler makers and they were paid from 50 francs a day up to what they could be induced to work for in the Isthmus. There was never a sufficient supply of boiler makers. Engineers received from 8,000 to 10,000 francs per year. No conductors were employed on work trains. The foreman or general foreman took care of his own trains. Panama Railroad tracks were not used by the French company. Ordinary laborers used to make from \$2 to \$2.60 per day, silver. Better laborers working on piecework would make from \$3.50 to \$4 per day, silver. Many laborers on excavating work were employed on the piece system and were paid by the meter. The rates per meter varied from 30 cents to \$1.20 silver, according to the nature of the material to be excavated. Employees were divided into three classes; the yearly class were those paid by the year, the monthly class called "temporaries," and the daily class. The monthly and daily class were paid in silver. The canteens, or boarding houses for laborers, were sold to the highest bidders and these bidders were compelled to feed the employees at different prices. The prices were as follows: \$60 silver a month, \$40 silver a month, and \$30 silver a month. It was also specified that this price was to include half a bottle of wine at each meal."

(Considering these wages it should be remembered that the cost of living, supplies, necessities, etc., at the time that these wages were paid was about one-half of what it is to-day. It must not be forgotten that during the period above referred to, disease was more prevalent and the death rate far higher than to-day.)

STATISTICS REGARDING CLUBHOUSES ON CANAL ZONE.

White, or "gold," communities on the Canal Zone having clubhouses managed by the Young Men's Christian Association.

	Bachelors.	Married.	Total.
Culebra.....	307	232	539
Empire.....	551	201	752
Gorgona.....	450	158	608
Cristobal.....	756	141	897

Communities for which clubhouses are recommended by the special commission.

	Bachelors.	Married.	Total.
Gatun.....	250	65	315
Las Cascadas.....	155	75	230
Ancon.....	202	105	307
Paraiso.....	229	86	315

The existing clubhouses have reported the following registration:

	Culebra.	Empire.	Cristobal.	Gorgona.	Total.
September, 1907.....	340	451	404	470	1,665
January, 1908.....	352	414	392	423	1,581
April, 1908.....	310	375	378	334	1,397

SAMPLE WEEKLY SCHEDULE OF CLUBHOUSES.

GORGONA CLUBHOUSE—SCHEDULE FOR THE WEEK ENDING SATURDAY, MAY 30, 1908.

Monday, May 25.

- 4 to 5 p. m.—Boys' Athletic Club in the gymnasium.
 7 to 8 p. m.—Library open.
 7 to 8.15 p. m.—Elementary Spanish class.
 7.15 p. m.—Local bowling league { 7.15, Chelf v. Ferris.
 8, Collins v. La Rose.
 8.45, Lasker v. Sexton.
 8.15 to 9.30 p. m.—Advanced Spanish class.

Tuesday, May 26.

- 2.30 to 4.30 p. m.—Open house for women; library open.
 7 to 8 p. m.—Library open.
 8 p. m.—Chester's moving picture entertainment. Subject: "The U. S. Army."
 Admission, 25 cents; children, 15 cents; members, free.
 Open bowling.

Wednesday, May 27.

- 4 to 5 p. m.—Boys' Athletic Club in the gymnasium.
 7 to 8 p. m.—Library open.
 Open bowling. Track team practice in gymnasium.

Thursday, May 28.

2.30 to 4.30 p. m.—Open house for women; library open.

7 to 8 p. m.—Library open.

7.15 p. m.—Local bowling league { 7.15 McCon'y v. Hayes.
8 Varen'k v. Wright.
8.45 McCorm'k v. O'Connor.

7.30 p. m.—Organization of a boxing class under direction of Mr. A. E. Alexander.

Friday, May 29.

3.30 p. m.—Boys' athletic club in the gymnasium.

7 to 8 p. m.—Library open.

7 to 8.15 p. m.—Elementary Spanish class; 8.15 to 9.30, advanced class.
Open bowling.

Saturday, May 30.

9.30 a. m.—Athletic meet at Gorgona baseball park.

7 to 8 p. m.—Library open.

8.15 p. m.—Chester's moving-picture entertainment. Admission, 25 cents; children, 15 cents; members, free.

The Chester entertainment will conclude on June 2 with a moving-picture show and lecture on Peru, Ecuador, and Bolivia.

SAMPLE BILLS OF FARE.

Luncheon at Tabernilla, Wednesday, May 13, 1908: Tomato soup, steak, macaroni, potatoes, squash, apple pie, iced tea, and coffee.

Luncheon at Paraiso, Tuesday, May 19, 1908: Vegetable soup, pork chops, baked fish and tomato sauce, boiled spinach with egg, boiled potatoes, boiled cabbage, iced tea, hot coffee, mince pie.

Fruit, consisting of apples or bananas, is kept on the tables.

TOTAL EXPENDITURES FOR CANAL TO MARCH 30, 1908.

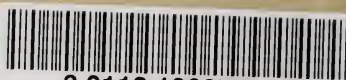
The following figures submitted by the Isthmian Canal Commission show total expenditures for the canal to March 30, 1908, and the total excavation to the same date, as follows:

Total excavation.....	cubic yards..	31,873,495
Total expenditures.....		\$66,802,047.83

The expenditures may be divided as follows:

Department of civil administration.....	\$1,985,505.69
Department of sanitation.....	6,328,262.22
Department of construction and engineering.....	25,161,551.63
Municipal improvements.....	5,357,201.88
Plant.....	27,969,526.46
Total.....	66,802,047.83

Municipal improvements include paving, waterworks, and sewers in the cities of Colon and Panama, amounting to about \$2,000,000, as well as similar improvements throughout the Canal Zone. Included in the plant expenditures are approximately \$10,000,000 for buildings, docks, etc.; \$2,000,000 for relocation of the Panama Railroad and second track, Panama Railroad; and about \$14,000,000 for rolling stock, excavating machinery, floating equipment, shop tools, and machinery; and a little under \$2,000,000 for rails and ties.



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